

EPA ID: GASFN0406949 Site Name: KOPPERS COURT RELEASE

State ID:

Alias Site Names:

City: CONLEY

County or Parish: CLAYTON

State: GA

Refer to Report Dated:

Report Type: SITE INSPECTION 001

Report Developed by: STATE

DECISION:

☒ 1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:☒ 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)☐ 1b. Site may qualify for action, but is deferred to:☐ 2. Further Assessment Needed Under CERCLA:2a. Priority: ☐ Higher ☐ Lower

2b. Other: (recommended action) NFRAP (No Further Remedial Action Planned)

SITE:	
BREAK:	1.9
OTHER:	vol 1

DISCUSSION/RATIONALE:

The U.S. Environmental Protection Agency (EPA) has determined that no further remedial action by the Federal Superfund program is warranted at the referenced site, at this time. The basis for the no further remedial action planned (NFRAP) determination is provided in the attached document. A NFRAP designation means that no additional remedial steps under the Federal Superfund program will be taken at the site unless new information warranting further Superfund consideration or conditions not previously known to EPA regarding the site are disclosed. In accordance with EPA's decision regarding the tracking of NFRAP sites, the referenced site may be removed from the CERCLIS database and placed in a separate archival database as a historical record if no further Superfund interest is warranted. Archived sites may be returned to the CERCLIS site inventory if new information necessitating further Superfund consideration is discovered.



10534515

Site Decision Made by: AMY WILLIAMS

Signature: Amy Williams

4/24/03

Date: 04/23/2003



Amy Williams

02/12/03 03:00 PM

To: Andy_Taft@dnr.state.ga.us
cc: thompson.carolyn@epa.gov
Subject: Koppers Court Release SI

Andy,

Attached are EPA comments on the SI Report for Koppers Court Release (a.k.a. Chrome Wheel Concepts) in Conley, Georgia. Sorry to get you these so late. If you want to call me, my phone number is (404) 562-8776.

-Amy Williams
-Site Assessment Manager



kopperscourt-si-review.wp



10534518

EPA Review Comments -- Site Investigation report for Koppers Court Release (Conley, Georgia), prepared by Georgia EPD, September 19, 2002

Summary:

Downstream of the Koppers Court Release site, the tributary and South River are used for recreational fishing. The Surface Water Conclusions section of Georgia EPD's SI report states that the surface water pathway may be an area of concern for the SI. However, the presence of metals (arsenic, chromium, copper, and nickel) at over 3 times background in sediments in surface water used as a recreational fishery did not warrant a score higher than 28.5.

In the SI report EPD recommended that the Koppers Court Release site not be included on the NPL and that continued site evaluation under the HRS is not warranted at this time. For purposes of validating the site decision, EPA recommends that additional documentation be included in the report.

During the limited SI sampling in May 2002, EPD collected soil, sediment, and surface water samples. However, background samples were collected only in sediments, and not in surface water or soil. Background values for all media should have been included in the report to compare with surface water and soil data.

Comments:

1. Although limited surface water was available in the vicinity of the site during sampling, a background surface water sample should have been collected in an upgradient area off-site or a similar stream or watershed (with equivalent flow and sediment size/makeup). For purposes of the SI report, since no background surface water samples were collected during the field effort, EPA recommends that literature background values be reported in the report for comparison purposes.
2. In 2002, EPD collected only one soil sample in the area that once had stressed vegetation. The PA states that in 1999, after conducting a removal at the culvert on the Hickson property and soil from the backyard of the Chrome Wheel facility in the area of stressed vegetation, EPA's Removal Branch collected two confirmation samples that showed slightly elevated chromium levels of 120 mg/kg. It is unclear whether the area of soil sampled during the field effort was in the areas speculated to contain the highest levels of contamination.
3. The results of EPD's SI sampling in 2002 showed that the chromium level was only 8.6 mg/kg in the soil sample. Also detected were 16 mg/kg copper and 7.5 mg/kg nickel. EPD did not collect a background sample for soil and did not present any background concentrations in the report, although the statement was made that the concentrations of metals detected in soil were less than three times background (Section 5.4). This statement should not be made in the SI report unless it can be documented by presenting background data.

Received
04/23/03

Approved:
04/23/03

Final
SITE INSPECTION NARRATIVE REPORT

Koppers Court Release
4041 Koppers Court
Conley, DeKalb County, Georgia

CERCLIS ID # GASFN0406949

Prepared for
U.S. Environmental Protection Agency
Region IV

Prepared by:
David Brownlee

Georgia Environmental Protection Division
Hazardous Waste Management Branch

September 19, 2002

Revised April 15, 2003

Reviewed by:
Jane Hendricks
Unit Coordinator



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1.0 INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Acts of 1986 (SARA), the Georgia Environmental Protection Division (EPD), Hazardous Waste Management Branch conducted a site inspection (SI) at the former Chrome Wheel Concepts site in DeKalb County, Georgia. The purpose of this investigation was to collect information concerning conditions at the former Chrome Wheel Concepts site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other authority, and, if appropriate, support site evaluation using the Hazard Ranking System (HRS) for proposal to the National Priorities List (NPL). The scope of the investigation included review of previous information, sampling waste and environmental media to test preliminary assessment (PA) hypotheses and to evaluate and document HRS factors, and collecting additional non-sampling information.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY, & WASTE CHARACTERISTICS

2.1 Location

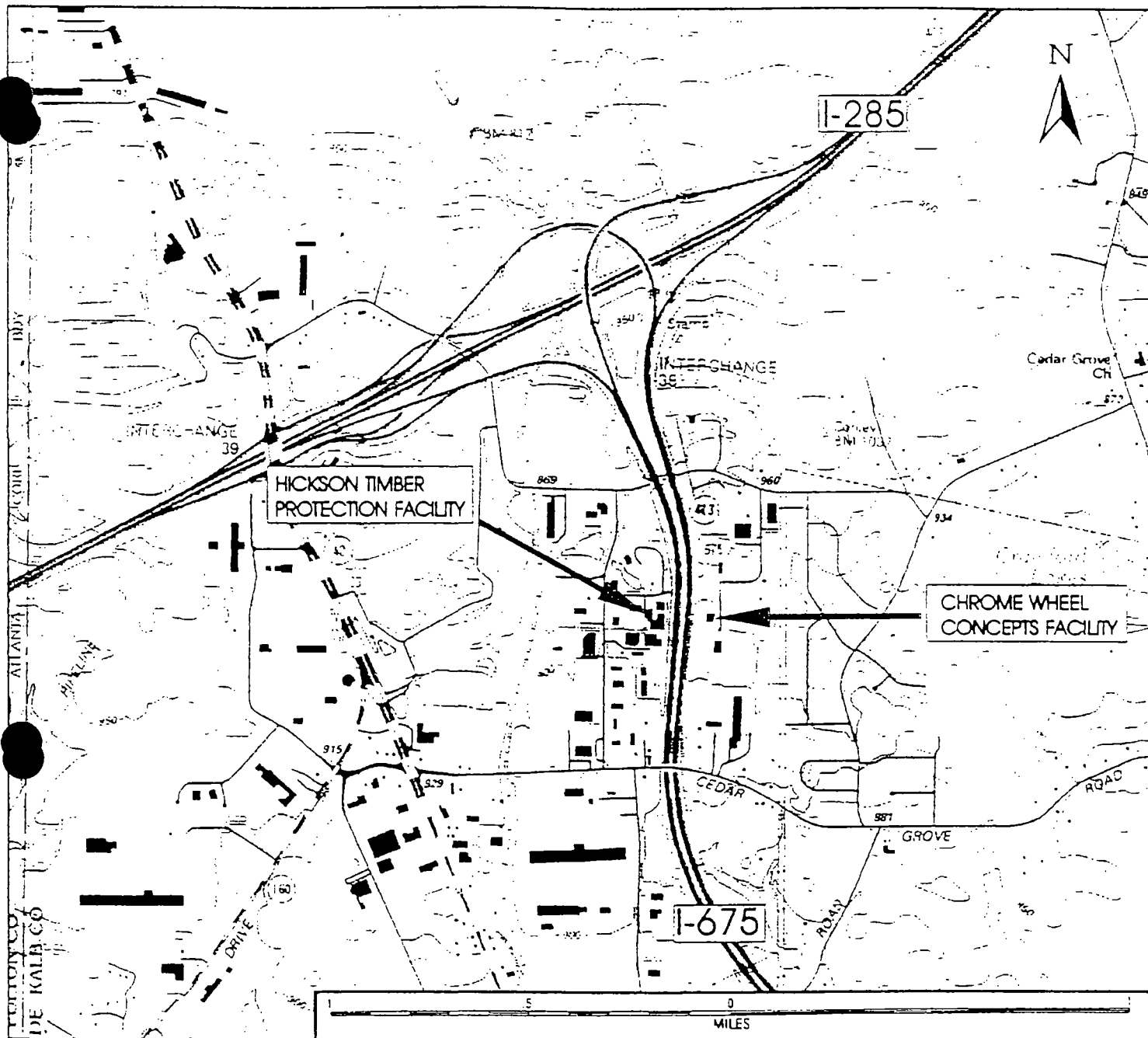
The former Chrome Wheel Concepts site is located at 4041 Koppers Court within the city limits of Conley, Georgia (Figure 1). The geographic coordinates are 33°39'45" N latitude and 84°19'25" W longitude as can be seen on the United States Geological Survey (U.S.G.S.) 7.5 minute Topographic Quadrangle Maps (Reference 1). Conley is located in DeKalb County and is approximately 2 miles east of Atlanta. The site can be reached from I-285 by taking the Moreland Avenue exit, proceeding north approximately 0.3 miles, turning right onto Henrico Road, approximately 1.4 miles turning right onto Koppers Road and then turning left onto Koppers Court approximately 0.3 miles down.

The climate of DeKalb County is mild to hot with humid summers and cool winters. The average daily temperature during the summer is about 78°F and the average daily temperature during the winter is about 44°F. Mean annual precipitation is approximately 50 inches (Reference 2).

2.2 Site Description

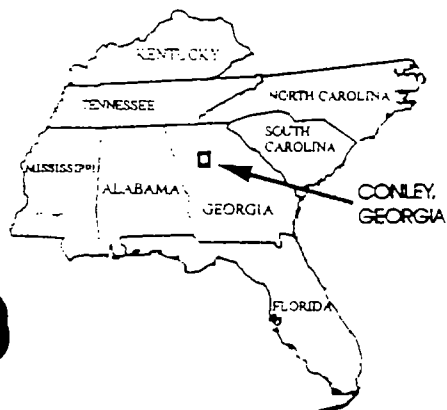
The site is located on approximately one acre. Access to the site is from Koppers Court. The site is bordered on the north by wooded areas and a drainage ditch, on the south by Iron Peddlers, an industrial facility, on the west by Interstate 675 and on the east by Koppers Court (References 3 and 4). The property slopes gently towards the north and the drainage ditch.

The property is currently in active use as an office and is no longer used for metal-plating operations. The site has one main structure.



MODIFIED FROM USGS 7.5 MINUTE QUADRANGLE MAP
SOUTHEAST ATLANTA, 1993, EDITED 1995

CONTOUR INTERVAL 10 FEET



CHROME WHEEL CONCEPTS
CONLEY, DEKALB COUNTY, GEORGIA

FIGURE 1
GENERAL SITE MAP

SED-4

KOPPERS ROAD

HICKSON
INDUSTRIES

SW-3
SED-3

Probable
Point of
Entry (PPE)



SED-1

SOIL-1

KOPPERS COURT

CHROME
WHEEL
CONCEPTS

IRON
PEDDLERS

SED-2



LEGEND

CULVERT

DITCH

FENCE

WATER FLOW

UNDERGROUND
DITCH

UNDERGROUND
CULVERT

UNDERGROUND
WATER FLOW

NOT TO SCALE

KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA

FIGURE 2
SITE LOCATION MAP

w/ SAMPLE LOCATIONS

2.3 Operational History and Waste Characteristics

Chrome Wheel Concepts was a manufacturing facility that performed decorative chrome plating on wheel accessories. The actual operations that took place at the facility are unknown; however, the general process of chrome plating is standard. The surface of the object to be plated must be prepared to accept the finish of the desired metal to be plated. Preparation of the surface involves alkaline cleaning solutions and sometimes organic solvents if grease is to be removed. Acid dipping generally follows the cleaning cycle. An undercoating is also applied prior the final or topcoat of chromium. The undercoats are usually a nickel or copper coating. For heavy undercoatings, parts are first struck in a cyanide bath. Chrome plating is the final finish in the process and is done using a chromic acid bath.

According to Mr. Terek Green, operator of the facility, Chrome Wheel Concepts ceased operations around the first quarter of 1999. However, on May 5, 1999 workers at a neighboring property noticed an unusual color in the water running through a culvert at the rear of the property located at 1579 Koppers Road. After discovering the suspected source for the discoloration, the workers contacted the Emergency Response Program (ERP) of the Georgia Environmental Protection Division. The suspected source was Chrome Wheel Concepts. The ERP contacted the USEPA Region 4 Emergency Response and Removal Branch for assistance in preventing the immediate threat of continuing migration of the contaminants to surface water bodies. The response activities included sampling and removal actions. Samples were taken from both inside and outside the building of the soil, sediment, and surface water. The contaminants of concern are antimony, arsenic, chromium, copper, lead, mercury, nickel, cyanide and the pH of the solutions (References 3 and 9).

2.4 WASTE/SOURCE SAMPLING

2.4.1 Sample Locations

Table 1 presents the sample numbers, locations and objectives for the waste sample collected during the SI. The waste, or source material, that was sampled at the site consisted of soil from the area where the release of plating solution occurred. The soil sample was taken using a stainless steel spoon in an area of sparse vegetation (see Figure 2). The soil sample result is also discussed in the soil pathway section. Other non-source samples include drainage area sediments and surface water. The non-source samples will be discussed under their respective pathways.

Table 1. Waste Sample Description and Results

Sample Number	Description	Purpose of sample and constituents analyzed	Results - totals	
			Contaminant	Level (mg/kg)
SOIL-1 HW9000	Soil sample near plating solution release area.	Investigate possibility of hazardous constituents. Analyzed for metals and cyanide. Non-detect results are reported as < the detection limit.	Antimony Arsenic Chromium Copper Lead Mercury Nickel Cyanide	<12 <8 8.6 16 <9 <0.1 7.5 <9

SOIL-BG	Background metals data taken from literature (Reference 10)	To compare with site soil data.	Antimony	9.78
			Arsenic	10.7
			Chromium	24.8
			Copper	25.3
			Lead	62.3
			Mercury	---
			Nickel	19.3
			Cyanide	---

2.4.2 Analytical Results

Table 1 presents analytical results from the soil sample collected from the plating release area. The sample was collected at the surface in an area of sparse vegetation using a stainless steel spoon. None of the detected constituents exceeded 3 times the literature background levels (Reference 10).

2.4.3 Waste/Source Conclusions

There does not appear to be any source or residual soil contamination at the facility following the removal actions completed at the site.

3.0 GROUNDWATER PATHWAY

3.1 Hydrogeologic Setting

DeKalb County is in the central uplands district of the Piedmont physiographic province (Reference 5). The underlying geology of the area is made up of metamorphic and igneous rocks. Covering most of the area is saprolite, a clayey residual deposit produced by the weathering of the rocks. Depending on the properties of the parent rock and the topography, the saprolite in this area can range from 0 to 200 feet.

Groundwater in the area occupies joints, fractures and other secondary openings in the bedrock and pore spaces of the overlying soil. Precipitation recharges the groundwater found in these underground openings. Generally groundwater tends to flow the way of the surface topography of the area. This area slopes to the north toward the drainage ditch (References 1 and 4). Groundwater in this area is typically encountered between 10 and 600 feet below ground surface, and with very few exceptions, is under water table conditions. Yields for wells tend to be relatively small due to the low permeability of the crystalline rocks and overlying regolith, which limits the rate of recharge. For this reason, groundwater in this area is second to surface water for municipal supply.

3.2 Groundwater Targets

There are approximately 414 people within a four-mile radius of the site who rely on private wells for their drinking water. None of these people live within 1/2 mile of the site (Reference 6). The nearest resident on a private drinking water well is located between 1/2 mile and 1 mile from the site. The population served by city water is not included in the target population for groundwater because the City of Conley has a surface water withdrawal permit to take water from the Chattahoochee River (Reference 3).

Table 2 shows a population breakdown, by radial distance from the site, of private and public water users based on U.S. Census data (Reference 6). According to this information, no one within 1/2 mile, and only seven persons within 1 mile of the site, draw drinking water from a private well.

Table 2. Population Using Public and Private Drinking Water

Radial Distance in Miles	0 to .25	.25 to .5	.5 to 1	1 to 2	2 to 3	3 to 4	<u>Total</u>
Total Population	63	181	573	7664	21776	39483	69740
Private Well Users	0	0	7	29	69	309	414
Public Water Users	63	181	566	7635	21707	39483	69326

3.3 Groundwater Sample Locations

There were no groundwater samples collected during the SI.

3.4 Groundwater Analytical Results

There are no results to report for the SI.

3.5 Groundwater Conclusions

The release at the facility was a of short-term duration and was immediately followed by a clean-up of the contaminated soil and sediment. To be conservative, a suspected release to groundwater was used; however, the absence of any actual targets, and the low number of potential targets, makes the groundwater pathway an unlikely route of exposure.

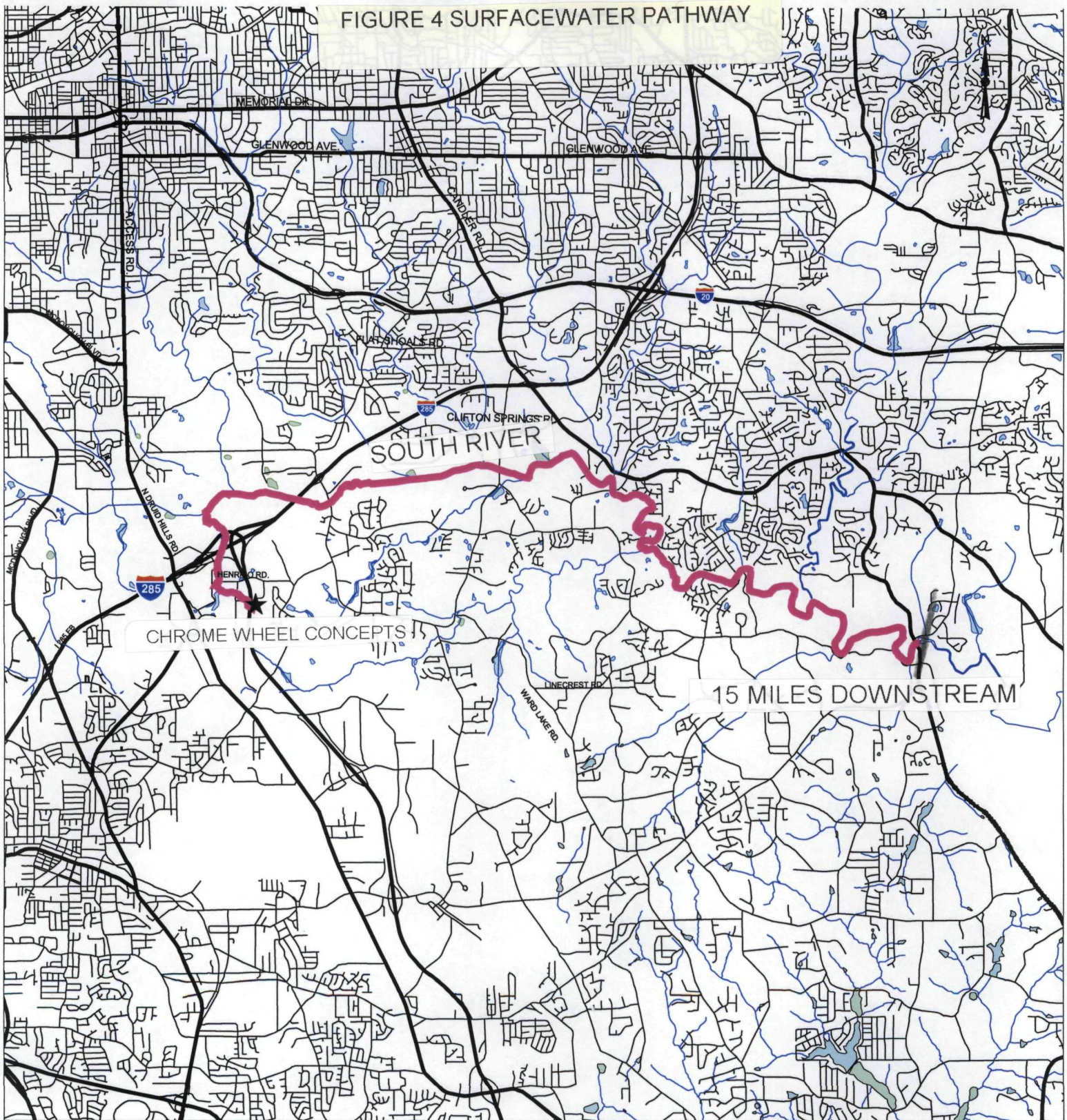
4.0 SURFACE WATER PATHWAY

4.1 Hydrologic Setting

The former Chrome Wheel Concepts facility does not lie in a 100-year floodplain area (Reference 3).

The topography of the site is such that surface water primarily flows to the west where it drains into a concrete culvert directly behind the facility. The culvert flows south for approximately 100 yards, joins with another culvert flowing north, and turns under the I-675 expressway. The culvert emerges from under the expressway at the rear of an industrial facility and forms a small, unnamed tributary. The unnamed tributary flows north along the east side of Koppers Road. It crosses Bonsal Road and continues flowing northeast. It eventually flows underneath the I-285 exchange and discharges into the South River. There is no streamflow data for the unnamed tributary but it is very low and assumed to be a perennial surface water body with less than 10 cfs. The South River flows southeast past the fifteen mile mark for the Chrome Wheel Concepts site and combines with the Yellow River and the Alcovy River. There are designated wetlands throughout the surface water pathway (Reference 7). The probable point of entry (PPE) is shown on Figure 2 for better detail. The 15-mile surface water pathway is depicted in Figure 4.

FIGURE 4 SURFACEWATER PATHWAY



- Roads
- State and US Highways
- Interstate Highways
- Rivers/Streams
- Lake/Pond
- Swamp/Marsh
- 15 Mile Downstream Pathway

Chrome Wheels Site
15 Mile Downstream Pathway
4041 Koppers Ct.
Atlanta , Dekalb County

Scale: 1 inch = 1 mile
33 39' 45" 84 19' 25"

Surface Water Intakes from EPD GSB DR96-27(1996);
 Roads, Rivers, Wetlands from Georgia DOT (1993);

4.2 Surface Water Targets

There are no drinking water intakes on the surface water pathway for a distance of 15 miles downstream of the site (Figure 4). Most residents in DeKalb and Henry County receive their drinking water from a system that has a surface water withdrawal permit at a location north of the former Chrome Wheel Concepts site. The unnamed tributary and South River downstream of the site are used for recreational fishing. There are over 100 wetlands within 15 miles downstream of the site. The nearest wetland is approximately 50 yards from the site (Reference 3). There are no federally or state designated endangered or threatened wildlife found along the surface water pathway. Table 3 describes the following endangered, threatened, rare or unusual plants that are known to exist in DeKalb and Henry County and whose habitat is consistent with that of the surface water pathway (Reference 8).

Table 3. Protected Plants

NAME	NAME
<i>Allium speculae</i> - Flatrock Onion	<i>Ribes curvatum</i> – Granite Gooseberry
<i>Amorpha schwerinii</i> - Schwerin Indigo Bush	<i>Schisandra glabra</i> – Bay Starvine
<i>Amphianthus pusillus</i> - Pool Sprite, Snorkelwort	<i>Sedum pusillum</i> – Dwarf Granite Stonecrop
<i>Amsonia ludoviciana</i> - Louisiana Blue Star	<i>Viburnum rafinesquianum</i> – Downy Arrowwood
<i>Anemone berlandieri</i> – Glade Windflower	<i>Waldsteinia lobata</i> – Piedmont Barren Strawberry
<i>Aster avitus</i> - Alexander Rock Aster	<i>Melanthium woodii</i> – Ozark Bunchflower
<i>Aster georgianus</i> – Georgia Aster	<i>Nestronia umbellula</i> – Indian Olive
<i>Eriocaulon koernickianum</i> – Pipewort	<i>Panax quinquefolius</i> – American Ginseng
<i>Fimbristylis brevivaginata</i> – Flatrock Fimbry	<i>Pilularia Americana</i> – American Pillwort
<i>Isoetes melanospora</i> – Black-spored Quillwort	<i>Pycnanthemum curvipes</i> – Mountain Mint

4.3 Sample Locations

Table 4 presents the sample numbers, locations, and objectives for samples collected to evaluate the surface water pathway during the SI. Four sediment samples were collected from the current drainage culvert and unnamed tributary along the surface water pathway including a background sediment sample upgradient of the drainage pathway (see Figure 2). Only one surface water sample was collected due to the absence of water flow during the SI sampling inspection. The surface water sample came from a standing pool along the surface water pathway (see Figure 2). Both a duplicate sediment and surface water sample were collected.

4.4 Surface Water and Sediment Analytical Results

The sediment samples from the drainage ditch behind Hickson Industries and the unnamed creek showed elevated levels of arsenic, chromium, copper, and nickel 3 times greater than background levels. SED-3 had the highest concentrations of all the metals, arsenic (57 mg/kg), chromium (110 mg/kg), copper (570 mg/kg), and nickel (230 mg/kg). The concentrations at SED-2 only had nickel at greater than 3 times above background; however, the duplicate sample was not 3 times above background for nickel. This suggests that the concentrations found at SED-3 and SED-4 may have contributions from the neighboring Hickson Industries facility. The Hickson Industries facility generates copper chromated arsenate (CCA) as part of its wood preserving operations. Similarly, the surface water sample detected arsenic, copper, and nickel as well. A background surface water sample was not collected, as a suitable location did not exist since the unnamed tributary is a headwater for the drainage area.

Table 4. Surface Water and Sediment Sample Descriptions and Results

Sample Number	Description	Purpose	Results - totals (mg/kg)	
			Contaminants	Level
SED-1 HW8999	Background sediment sample from drainage culvert upgradient of the site.	Evaluate the sediment feeding into drainage culvert before the site.	Antimony Arsenic Chromium Copper Lead Mercury Nickel Cyanide	<12 <8 24 17 14 <0.1 20 <12
SED-2 HW9001	Sediment from directly behind the former Chrome Wheel Concepts facility.	Evaluate the sediment closest in distance from the release point.	Antimony Arsenic Chromium Copper Lead Mercury Nickel Cyanide	<12 [<lt;12] </lt;12] <8 [<lt;8] </lt;8] 56 [66] 38 [30] <9 [<lt;9] </lt;9] <0.1 [<lt;0.1] </lt;0.1] 69 [53] <11 [<lt;10]< td=""></lt;10]<>
SED-2DUP HW9002	Duplicate sample taken from same location as SED-2.	For QA/QC. Results shown in brackets next to SED-2 results.		
SED-3 HW9003	Sediment from across I-675 across the back of Hickson Industries	Evaluate the sediment further downstream from the facility and to see if any impacts are being contributed from Hickson Industries.	Antimony Arsenic Chromium Copper Lead Mercury Nickel Cyanide	<12 57 110 570 <9 <0.1 230 <12
SW-3 HW9004	Surface water sample from standing pool of water next to SED-3 sample location.	Evaluate surface water impacts along the drainage pathway. Results are in ug/L	Antimony Arsenic Chromium Copper Lead Mercury Nickel Cyanide	<60 [<lt;60] </lt;60] 64 [62] <10 [<lt;10] </lt;10] 110 [100] <3 [<lt;3] </lt;3] <0.2 [<lt;0.2] </lt;0.2] 68 [68] <25 [<lt;25]< td=""></lt;25]<>
SW-3DUP HW9005	Duplicate sample taken from the same location as SW-3.	For QA/QC. Results shown in brackets next to SW-3 results		
SED-4 HW9006	Sediment from the unnamed tributary along Koppers Road near the Hickson Industries	Evaluate sediment further downstream along the surface water pathway.	Antimony Arsenic Chromium Copper Lead Mercury Nickel Cyanide	<12 56 110 100 <9 <0.1 190 <11

4.5 Surface Water Conclusions

A comparison of background sediment sample concentrations to sediment sample results indicate elevated levels of arsenic, chromium, copper, and nickel 3 times above background occurring after the I-675 expressway but not immediately behind the former Chrome Wheel Concepts site. This could be attributable to residual contamination that occurred during the release from the site but was not removed during the cleanup. However, Hickson Industries, the facility that shares the drainage area after the I-675 expressway manufactures CCA as their main product and could also be the source for the elevated metals. Although background surface water reference values could not be found, the pathway was still deemed to have a release due to the sediment data; therefore, the surface water pathway is an area of concern for the SI.

5.0 SOIL AND AIR EXPOSURE PATHWAY

5.1 Physical Conditions

The former Chrome Wheel Concepts site is located in a rural/industrial area in Conley, Georgia. Land use surrounding the site includes undeveloped property and other industrial facilities. The facility is not currently operating as a metal-plating facility and has been leased to new tenants. Access to the site is unlimited and the property is mostly grassy except for a small paved parking lot and the building area (Reference 4).

5.2 Soil and Air Targets

During our site visit, we only encountered one worker who stayed inside the building. The nearest residence is greater than 200 feet from the site. The total population within a 4 mile radius of the site is 69,739. The population within 1/4 mile of the site is 63 (Reference 6). There exists the possibility of terrestrial sensitive environments for the endangered species listed on Table 2 that are found within the 4-mile radius of the site. There are numerous wetlands located within 4 miles of the site (Reference 7).

5.3 Soil Sample Locations

A single soil sample was collected from the area where the release occurred at the site (see Figure 2). The soil sample was collected in an area of sparse vegetation to determine if any residual surface contamination existed at the site following the remedial activities conducted by USEPA at the site. The sample was collected using a stainless steel spoon at the surface.

5.4 Soil Analytical Results

Table 5 summarizes the soil sample result for the SI. The results do not show elevated concentrations of any metals 3 times above literature background values near the release area.

Table 5. Soil Sample Analytical Results

Sample Number	Description	Purpose of sample and constituents analyzed	Results - totals	
			Contaminant	Level (mg/kg)
SOIL-1 HW9000	Soil sample collected at the surface in the release area. This sample was also used as the waste sample in Table 1.	To determine if any residual contamination exists at the surface following the remedial efforts. Analyzed for metals.	Antimony	<12
			Arsenic	<8
			Chromium	8.6
			Copper	16
			Lead	<9
			Mercury	<0.1
			Nickel	7.5
			Cyanide	<9
SOIL-BG	Background metals data taken from literature (Reference 10)	To compare with site soil data.	Antimony	9.78
			Arsenic	10.7
			Chromium	24.8
			Copper	25.3
			Lead	62.3
			Mercury	---
			Nickel	19.3
			Cyanide	---

5.5 Soil Exposure and Air Pathway Conclusions

The soil pathway does not appear to be a major pathway following the remedial efforts of USEPA in removing the contaminated soil from the release area. Sampling did not show any residual surface contamination at the site. Other signs of possible soil contamination, such as staining or dead vegetation, were not observed. In addition, the rural/industrial location of the site and absence of significant targets in the area further supports the limited significance of this pathway.

A release to the air is not suspected. During the SI sampling, no odors were noted at the facility no dust or fugitive emissions were observed.

6.0 SUMMARY AND CONCLUSIONS

The site is a closed chrome-plating facility that no longer generates hazardous waste or constituents. Therefore, there is no potential for further releases from the facility. A USEPA led cleanup of the contaminated sediments and soils occurred following the release. Follow-up sampling, conducted in accordance with this SI, indicate that the contaminated soil material has indeed been removed. Sediment sampling shows elevated levels of arsenic, chromium, copper, and nickel relative to background levels; however, this could also be attributable to the neighboring industrial facility that generates CCA as a product. Since the site is no longer in operation as a metal-plating facility, there is no reason to suspect that this site presents a current threat to any of the pathways.

In conclusion, based upon available information and current site conditions, the site is not recommended as a candidate for inclusion to the National Priorities List, nor is continued site evaluation under the Hazardous Ranking System warranted at this time.



County: DeKalb	Picture 1 of 5	Site Name: Chrome Wheel Concepts
Date: May 16, 2002	Photographer: David Brownlee	Program: Hazardous Sites Response Program (HSRP)
Explanation: Location of SED-1 sample. This was taken along the fence to be used as background.		



County: DeKalb	Picture 2 of 5	Site Name: Chrome Wheel Concepts
Date: May 16, 2002	Photographer: David Brownlee	Program: Hazardous Sites Response Program (HSRP)
Explanation: Location of SOIL-1 taken behind the facility building. The sample was collected from the area with sparse vegetation.		



County: DeKalb

Picture 3 of 5

Site Name: Chrome Wheel Concepts

Date: May 16, 2002

Photographer: David Brownlee **Program:** Hazardous Sites Response Program (HSRP)

Explanation: Location of SED-2 sample. This was taken at the junction of the 2 drainage ditches behind the facility.



County: DeKalb

Picture 4 of 5

Site Name: Chrome Wheel Concepts

Date: May 16, 2002

Photographer: David Brownlee **Program:** Hazardous Sites Response Program (HSRP)

Explanation: Location of SED-3 and SW-3 taken across I-675 along the back of Hickson Industries.



County: DeKalb	Picture 5 of 5	Site Name: Chrome Wheel Concepts
Date: May 16, 2002	Photographer: David Brownlee	Program: Hazardous Sites Response Program (HSRP)
Explanation: Location of SED-4 sample. This was taken across the street from Hickson Industries downgradient from SED-3.		

County:	Picture of	Site Name:
Date:	Photographer:	Program:
Explanation:		

**HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS**


Facility Name/Location: CWC
 Sample Collected By/Phone: David Brownlee 7-8690 GH
 Collection Date: 5/16/02 LAB No. _____
 Date Submitted To Lab: 5/17/02
 HWMB LOG NUMBER: 9000 SOIL-1
File a separate Request Sheet for each sample point

Analysis Needed By: Routine ☒ Other (specify) _____

Sample Description (check one)

Waste _____
 Ground Water _____

Soil/Sediment ☒
 Surface Water _____


 Sample ID AD66213
 Location: HWMB
 Description: CHROME WHEEL Soil-1 HW900
 Collector: D BROWNLEE
 Sample ID: AD66213

Concentration of Organics Requested (estimated): High _____ Low _____ Other (e.g., _____)

Describe Sample Including Source and Known Properties (e.g. pH, concentration);

Applicable Hazardous Waste Codes (if known) _____

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS	2. TOTAL METALS
Semi-Volatiles _____	ICP Metals Scan <input checked="" type="checkbox"/>
(Acid & Base/Neutral) _____	(Ag,As,Ba,Cd,Cr,Ni,Pb,Se) _____
Volatiles _____	Mercury _____
Pesticides _____	Metals Special Requests: _____
Herbicides _____	
Organophosphorous Pesticides _____	
PCB _____	
BETX _____	
Total Petroleum Hydrocarbon _____	
Organics Special Requests: _____	

3. TCLP ORGANICS

Volatiles _____	Pesticides _____
Semi-Volatiles (Acid & Base/Neutral) _____	Herbicides _____
Additional Specific Organics for TCLP: _____	

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se) _____	Additional Metals for TCLP: _____
Mercury _____	

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): Cyanide

Reviewed By: (HWMB): _____	Date: _____	Reviewed By: (EPD Lab): <u>DML</u>
Approved By: (HWMB): _____	Date: _____	Date (EPD Lab): <u>5-17-02</u>

RECPT TEMP 0.0

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 14:40 Sample Collector: D BROWNEE Chlorination: Sample Type:
Sample ID: AD66213 Facility Name: Chrome Wheel Soil-1 Hw9000 Site ID: HWMB Location ID: Location Descr: HW9000	Received By: GHL Date Received: 5/17/2002 Time Received: 11:13 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST DATE	MCL or QC Range
QC Batch 49098							
Cyanide in Sediment	00721	9010B/9012	Not Detected	ug/kg (dw)	9000	BS	5/22/2002
Target analyte list for solids QC Batch 49146							
Sulfur	01078	6010 B	Not Detected	ug/kg (dw)	1000	LA	5/30/2002
Aluminum	01108	6010 B	8600000	ug/kg (dw)	20000	LA	5/30/2002
Arsenic	01003	6010 B	Not Detected	ug/kg (dw)	8000	LA	5/30/2002
Barium	01008	6010 B	35000	ug/kg (dw)	20000	LA	5/30/2002
Beryllium	01013	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002
Calcium	00917	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002
Cadmium	01028	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002
Cobalt	01038	6010 B	Not Detected	ug/kg (dw)	5000	LA	5/30/2002
Chromium	01029	6010 B	8600	ug/kg (dw)	1000	LA	5/30/2002
Copper	01043	6010 B	16000	ug/kg (dw)	2500	LA	5/30/2002
Iron	01170	6010 B	8700000	ug/kg (dw)	10000	LA	5/30/2002
Potassium	00938	6010 B	2500000	ug/kg (dw)	500000	LA	5/30/2002
Magnesium	00924	6010 B	2200000	ug/kg (dw)	500000	LA	5/30/2002
Manganese	01053	6010 B	84000	ug/kg (dw)	1500	LA	5/30/2002
Sodium	00934	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002
Nickel	01068	6010 B	7500	ug/kg (dw)	4000	LA	5/30/2002
Lead	01052	6010 B	Not Detected	ug/kg (dw)	9000	LA	5/30/2002
Antimony	01098	6010 B	Not Detected	ug/kg (dw)	12000	LA	5/30/2002
Selenium	01148	6010 B	Not Detected	ug/kg (dw)	19000	LA	5/30/2002
Thallium	34480	6010 B	Not Detected	ug/kg (dw)	20000	LA	5/30/2002
Vanadium	01088	6010 B	16000	ug/kg (dw)	5000	LA	5/30/2002

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppm: parts per million
 ppb: parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER	EPA	RESULT	UNITS	QUALIFIER	RL	ANALYST	ANALYSIS DATE	MCL or QC Range
	CODE	NOTE METHOD							
Zn	01093	6010 B	44000	ug/kg (dw)		2000	LA	5/30/2002	
Qc Batch 49142									
Mercury		EPA 7471A	Not Detected	ug/kg (dw)		100	PB	5/22/2002	

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

CWC or

Facility Name/Location:

Chrome Wheel Concepts (Koppers Court)

Sample Collected By/Phone:

David Brownlee 404-657-8690--

Collection Date:

5/16/02

LAB No.

GHL

Date Submitted To Lab:

5/17/02

HWMB LOG NUMBER:

8999

SED-1

File a separate Request Sheet for each sample point)

Analysis Needed By:

Routine

X

Other (specify

Sample Description (check one)

Waste

Ground Water

Soil/Sediment

Surface Water

X

Sample ID AD66215

Location: HWMB

Description: CHROME WHEEL SED-1 HW8999

Collector: D BROWNLEE

Sample ID: AD66215

Concentration of Organics Requested (estimated): High Low Other

Describe Sample Including Source and Known Properties (e.g. pH, concentration):

Applicable Hazardous Waste Codes (if known)

Special Precautions:

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles

(Acid & Base/Neutral)

Volatiles

Pesticides

Herbicides

Organophosphorous Pesticides

PCB

BETX

Total Petroleum Hydrocarbon

Organics Special Requests:

2. TOTAL METALS

ICP Metals Scan

(Ag,As,Ba,Cd,Cr,Ni,Pb,Se)

Mercury

Metals Special Requests:

4 OZ. JARS

8 OZ. JARS

16 OZ. JARS

3. TCLP ORGANICS

Volatiles

Semi-Volatiles (Acid & Base/Neutral)

Additional Specific Organics for TCLP:

Pesticides

Herbicides

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se)

Mercury

Additional Metals for TCLP:

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

Reviewed By: (HWMB):

Date:

Reviewed By: (EPD Lab):

Date:

Date (EPD Lab):

RECPT TEMP

10.0

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 14:30 Sample Collector: D BROWNEE Chlorination: Sample Type:
Sample ID: AD66215 Facility Name: Chrome Wheel Sed-1 Hw8999 Site ID: HWMB Location ID: Location Descr: HW8999	Received By: GHL Date Received: 5/17/2002 Time Received: 11:13 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49098								
Cyanide in Sediment	00721	9010B/9012	Not Detected	ug/kg (dw)	12000	BS	5/22/2002	
Target analyte list for solids QC Batch 49146								
Sulfur	01078	6010 B	Not Detected	ug/kg (dw)	1000	LA	5/30/2002	
Aluminum	01108	6010 B	12000000	ug/kg (dw)	200000	LA	5/30/2002	
Arsenic	01003	6010 B	Not Detected	ug/kg (dw)	8000	LA	5/30/2002	
Barium	01008	6010 B	66000	ug/kg (dw)	20000	LA	5/30/2002	
Beryllium	01013	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Calcium	00917	6010 B	880000	ug/kg (dw)	500000	LA	5/30/2002	
Cadmium	01028	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Cobalt	01038	6010 B	24000	ug/kg (dw)	5000	LA	5/30/2002	
Chromium	01029	6010 B	24000	ug/kg (dw)	1000	LA	5/30/2002	
Copper	01043	6010 B	17000	ug/kg (dw)	2500	LA	5/30/2002	
Iron	01170	6010 B	10000000	ug/kg (dw)	100000	LA	5/30/2002	
Potassium	00938	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Magnesium	00924	6010 B	1500000	ug/kg (dw)	500000	LA	5/30/2002	
Manganese	01053	6010 B	820000	ug/kg (dw)	1500	LA	5/30/2002	
Sodium	00934	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Nickel	01068	6010 B	20000	ug/kg (dw)	4000	LA	5/30/2002	
Lead	01052	6010 B	14000	ug/kg (dw)	9000	LA	5/30/2002	
Antimony	01098	6010 B	Not Detected	ug/kg (dw)	12000	LA	5/30/2002	
Selenium	01148	6010 B	Not Detected	ug/kg (dw)	19000	LA	5/30/2002	
Thallium	34480	6010 B	Not Detected	ug/kg (dw)	20000	LA	5/30/2002	
Vanadium	01088	6010 B	24000	ug/kg (dw)	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppm: parts per million
 ppb: parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER CODE	NOTE	EPA METHOD	RESULT	QUALIFIER UNITS	RL	ANALYSIS ANALYST	DATE	MCL or QC Range
Zn	01093		6010 B	36000	ug/kg (dw)	2000	LA	5/30/2002	
QC Batch 49142									
Mercury			EPA 7471A	Not Detected	ug/kg (dw)	100	PB	5/22/2002	
COMMENTS: TAL_S: \$ ICP Metals - Reporting limits raised due to elevated levels of target analytes in sample									

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppb: parts per million
 ppt: parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location:

CWC

Sample Collected By/Phone:

David Brownlee 7-8690

Collection Date:

5/16/02

LAB No.

Date Submitted To Lab:

5/16/02

HWMB LOG NUMBER:

9001 SED-2

File a separate Request Sheet for each sample point

Analysis Needed By:

Routine

X

Other (spec

Sample Description (check one)

Waste

Ground Water

Soil/Sediment

Surface Water

X

Concentration of Organics Requested (estimated): High Low Or

Describe Sample Including Source and Known Properties (e.g. pH, concentration);

Applicable Hazardous Waste Codes (if known)

Special Precautions:



Sample ID AD66220

Location: HWMB

Description: CHROME WHEEL SED-2 HW9001

Collector: D BROWNLEE

Sample ID: AD66220

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles

(Acid & Base/Neutral)

Volatiles

Pesticides

Herbicides

Organophosphorous Pesticides

PCB

BETX

Total Petroleum Hydrocarbon

2. TOTAL METALS

ICP Metals Scan

Ag,As,Ba,Cd,Cr,Ni,Pb,Se

Mercury

Metals Special Requests:

4 OZ JARS

8 OZ JARS

16 OZ JARS

Organics Special Requests:

3. TCLP ORGANICS

Volatiles

Semi-Volatiles (Acid & Base/Neutral)

Additional Specific Organics for TCLP:

Pesticides

Herbicides

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se)

Mercury

Additional Metals for TCLP:

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

Reviewed By: (HWMB):

Approved By: (HWMB):

Date:

Date:

Reviewed By: (EPD Lab):

Date (EPD Lab):

RECPT TEMP

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 14:50 Sample Collector: D BROWNEE Chlorination: Sample Type:
Sample ID: AD66220 Facility Name: Chrome Wheel Sed-2 Hw9001 Site ID: HWMB Location ID: Location Descr: HW9001	Received By: GHL Date Received: 5/17/2002 Time Received: 11:13 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49098								
Cyanide in Sediment	00721	9010B/9012	Not Detected	ug/kg (dw)	11000	BS	5/22/2002	
Target analyte list for solids QC Batch 49146								
S	01078	6010 B	Not Detected	ug/kg (dw)	1000	LA	5/30/2002	
Aluminum	01108	6010 B	15000000	ug/kg (dw)	200000	LA	5/30/2002	
Arsenic	01003	6010 B	Not Detected	ug/kg (dw)	8000	LA	5/30/2002	
Barium	01008	6010 B	39000	ug/kg (dw)	20000	LA	5/30/2002	
Beryllium	01013	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Calcium	00917	6010 B	910000	ug/kg (dw)	500000	LA	5/30/2002	
Cadmium	01028	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Cobalt	01038	6010 B	39000	ug/kg (dw)	5000	LA	5/30/2002	
Chromium	01029	6010 B	56000	ug/kg (dw)	1000	LA	5/30/2002	
Copper	01043	6010 B	38000	ug/kg (dw)	2500	LA	5/30/2002	
Iron	01170	6010 B	16000000	ug/kg (dw)	100000	LA	5/30/2002	
Potassium	00938	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Magnesium	00924	6010 B	2000000	ug/kg (dw)	500000	LA	5/30/2002	
Manganese	01053	6010 B	140000	ug/kg (dw)	1500	LA	5/30/2002	
Sodium	00934	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Nickel	01068	6010 B	69000	ug/kg (dw)	4000	LA	5/30/2002	
Lead	01052	6010 B	Not Detected	ug/kg (dw)	9000	LA	5/30/2002	
Antimony	01098	6010 B	Not Detected	ug/kg (dw)	12000	LA	5/30/2002	
Selenium	01148	6010 B	Not Detected	ug/kg (dw)	19000	LA	5/30/2002	
Thallium	34480	6010 B	Not Detected	ug/kg (dw)	20000	LA	5/30/2002	
Vanadium	01088	6010 B	38000	ug/kg (dw)	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 : parts per million
 : parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER CODE	NOTE	EPA METHOD	RESULT	QUALIFIER UNITS	RL	ANALYSIS ANALYST	DATE	MCL or QC Range
Zn	01093		6010 B	21000	ug/kg (dw)	2000	LA	5/30/2002	
Batch 49142									
Mercury			EPA 7471A	Not Detected	ug/kg (dw)	100	PB	5/22/2002	

COMMENTS: TAL_S: \$ ICP Metals - Reporting limits raised due to elevated levels of target analytes in sample

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
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org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
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Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location:

CWC

Sample Collected By/Phone:

David Brownlee 7-8690

GH

Collection Date:

5/16/02

LAB No.

Date Submitted To Lab:

5/17/02

HWMB LOG NUMBER:

9602

SED-2 Dup

File a separate Request Sheet for each sample point)

Analysis Needed By:

Routine

X

Other (spec)

Sample Description (check one)

Waste

Ground Water

Soil/Sediment

Surface Water

X

Concentration of Organics Requested (estimated): High Low 0

Describe Sample Including Source and Known Properties (e.g. pH, concentration):

Applicable Hazardous Waste Codes (if known)

Special Precautions:

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles

(Acid & Base/Neutral)

Volatiles

Pesticides

Herbicides

Organophosphorous Pesticides

PCB

BETX

Total Petroleum Hydrocarbon

2. TOTAL METALS

ICP Metals Scan

(Ag,As,Ba,Cd,Cr,Ni,Pb,Se)

Mercury

Metals Special Requests:

4 OZ. JARS

8 OZ. JARS

16 OZ. JARS

Organics Special Requests:

3. TCLP ORGANICS

Volatiles

Semi-Volatiles (Acid & Base/Neutral)

Additional Specific Organics for TCLP:

Pesticides

Herbicides

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se)

Mercury

Additional Metals for TCLP:

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

Reviewed By: (HWMB):

Approved By: (HWMB):

Date:

Date:

Reviewed By: (EPD Lab):

Date (EPD Lab):

RECPT TEMP

0.0

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 14:50 Sample Collector: D BROWNEE Chlorination: Sample Type:
Sample ID: AD66218 Facility Name: Chrome Wheel Sed-2 Dup Hw9002 Site ID: HWMB Location ID: Location Descr: HW9002	Received By: GHJ Date Received: 5/17/2002 Time Received: 11:13 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49098								
Cyanide in Sediment	00721	9010B/9012	Not Detected	ug/kg (dw)	10000	BS	5/22/2002	
Target analyte list for solids QC Batch 49146								
Sulfur	01078	6010 B	Not Detected	ug/kg (dw)	1000	LA	5/30/2002	
Aluminum	01108	6010 B	14000000	ug/kg (dw)	200000	LA	5/30/2002	
Arsenic	01003	6010 B	Not Detected	ug/kg (dw)	8000	LA	5/30/2002	
Barium	01008	6010 B	35000	ug/kg (dw)	20000	LA	5/30/2002	
Beryllium	01013	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Calcium	00917	6010 B	930000	ug/kg (dw)	500000	LA	5/30/2002	
Cadmium	01028	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Cobalt	01038	6010 B	19000	ug/kg (dw)	5000	LA	5/30/2002	
Chromium	01029	6010 B	66000	ug/kg (dw)	1000	LA	5/30/2002	
Copper	01043	6010 B	30000	ug/kg (dw)	2500	LA	5/30/2002	
Iron	01170	6010 B	14000000	ug/kg (dw)	100000	LA	5/30/2002	
Potassium	00938	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Magnesium	00924	6010 B	1900000	ug/kg (dw)	500000	LA	5/30/2002	
Manganese	01053	6010 B	110000	ug/kg (dw)	1500	LA	5/30/2002	
Sodium	00934	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Nickel	01068	6010 B	53000	ug/kg (dw)	4000	LA	5/30/2002	
Lead	01052	6010 B	Not Detected	ug/kg (dw)	9000	LA	5/30/2002	
Antimony	01098	6010 B	Not Detected	ug/kg (dw)	12000	LA	5/30/2002	
Selenium	01148	6010 B	Not Detected	ug/kg (dw)	19000	LA	5/30/2002	
Thallium	34480	6010 B	Not Detected	ug/kg (dw)	20000	LA	5/30/2002	
Vanadium	01088	6010 B	37000	ug/kg (dw)	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppb: parts per billion
 ppt: parts per trillion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER CODE	NOTE	EPA METHOD	RESULT	UNITS	QUALIFIER RL	ANALYST	ANALYSIS DATE	MCL or QC Range
Zn	01093		6010 B	19000	ug/kg (dw)	2000	LA	5/30/2002	
Batch 49142									
Mercury			EPA 7471A	Not Detected	ug/kg (dw)	100	PB	5/22/2002	

COMMENTS: TAL_S: \$ ICP Metals - Reporting limits raised due to elevated levels of target analytes in sample

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: CWC GHL
Sample Collected By/Phone: David Brownlee
Collection Date: 5/16/02 LAB No. _____
Date Submitted To Lab: 5/17/02
HWMB LOG NUMBER: 9003 SED-3
File a separate Request Sheet for each sample point

Analysis Needed By: Routine ☒ Other (specify) _____

Sample Description (check one)

Waste _____
Ground Water _____

Soil/Sediment ☒
Surface Water _____

Sample ID AD66211
Location: HWMB
Description: CHROME WHEEL SED-3 HW9003
Collector: D BROWNLEE
Sample ID: AD66211

Concentration of Organics Requested (estimated): High _____ Low _____ Other _____

Describe Sample Including Source and Known Properties (e.g. pH, concentration);

Applicable Hazardous Waste Codes (if known) _____

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles _____
(Acid & Base/Neutral) _____
Volatiles _____
Pesticides 1 _____
Herbicides 1 _____
Organophosphorous Pesticides 1 _____
PCB _____
BETX _____
Total Petroleum Hydrocarbon _____

Organics Special Requests: _____

2. TOTAL METALS

ICP Metals Scan ☒
(Ag,As,Ba,Cd,Cr,Ni,Pb,Se)
Mercury _____
Metals Special Requests: _____

4 OZ. JARS
8 OZ. JARS
16 OZ. JARS

3. TCLP ORGANICS

Volatiles _____
Semi-Volatiles (Acid & Base/Neutral) _____
Additional Specific Organics for TCLP: _____

Pesticides _____
Herbicides _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se) _____
Mercury _____

Additional Metals for TCLP: _____

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

Reviewed By: (HWMB): _____
Approved By: (HWMB): _____

Date: _____
Date: _____

Reviewed By: (EPD Lab): AML
Date (EPD Lab): 5-17-02

RECPT TEMP 20.0

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 15:40 Sample Collector: D BROWNEE Chlorination: Sample Type:
Sample ID: AD66211 Facility Name: Chrome Wheel Sed-3 Hw9003 Site ID: HWMB Location ID: Location Descr: HW9003	Received By: GHL Date Received: 5/17/2002 Time Received: 11:13 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49098								
Cyanide in Sediment	00721	9010B/9012	Not Detected	ug/kg (dw)	12000	BS	5/22/2002	
Target analyte list for solids QC Batch 49146								
Sulfur	01078	6010 B	Not Detected	ug/kg (dw)	1000	LA	5/30/2002	
Aluminum	01108	6010 B	23000000	ug/kg (dw)	200000	LA	5/30/2002	
Arsenic	01003	6010 B	57000	ug/kg (dw)	8000	LA	5/30/2002	
Barium	01008	6010 B	78000	ug/kg (dw)	20000	LA	5/30/2002	
Beryllium	01013	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Calcium	00917	6010 B	2500000	ug/kg (dw)	500000	LA	5/30/2002	
Cadmium	01028	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Cobalt	01038	6010 B	20000	ug/kg (dw)	5000	LA	5/30/2002	
Chromium	01029	6010 B	110000	ug/kg (dw)	1000	LA	5/30/2002	
Copper	01043	6010 B	570000	ug/kg (dw)	2500	LA	5/30/2002	
Iron	01170	6010 B	21000000	ug/kg (dw)	100000	LA	5/30/2002	
Potassium	00938	6010 B	620000	ug/kg (dw)	500000	LA	5/30/2002	
Magnesium	00924	6010 B	3800000	ug/kg (dw)	500000	LA	5/30/2002	
Manganese	01053	6010 B	380000	ug/kg (dw)	1500	LA	5/30/2002	
Sodium	00934	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Nickel	01068	6010 B	230000	ug/kg (dw)	4000	LA	5/30/2002	
Lead	01052	6010 B	Not Detected	ug/kg (dw)	9000	LA	5/30/2002	
Antimony	01098	6010 B	Not Detected	ug/kg (dw)	12000	LA	5/30/2002	
Selenium	01148	6010 B	Not Detected	ug/kg (dw)	19000	LA	5/30/2002	
Thallium	34480	6010 B	Not Detected	ug/kg (dw)	20000	LA	5/30/2002	
Vanadium	01088	6010 B	38000	ug/kg (dw)	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppb: parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER	EPA	RESULT	UNITS	QUALIFIER	RL	ANALYSIS	MCL or QC Range
	CODE	NOTE METHOD			ANALYST DATE			
49142 QC Batch 49142 Mercury	01093	6010 B	92000	ug/kg (dw)		2000	LA 5/30/2002	
		EPA 7471A	Not Detected	ug/kg (dw)		100	PB 5/22/2002	

COMMENTS: TAL_S: \$ ICP Metals - Reporting limits raised due to elevated levels of target analytes in sample

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: CWC

Sample Collected By/Phone: David Brownlee

Collection Date: 5/16/02 LAB No. _____

Date Submitted To Lab: 5/17/02

HWMB LOG NUMBER: 9004 SW-3


File a separate Request Sheet for each sample point

Analysis Needed By: Routine ☒ Other (specify) _____

Sample Description (check one)

Waste _____
Ground Water _____

Soil/Sediment _____
Surface Water ☒


Sample ID AD66200
Location: HWMB
Description: CHROME WHEEL/SW-3-HWMB
Collector: D. BROWNLEE
Sample ID AD66200

Concentration of Organics Requested (estimated): High _____ Low _____ Other (e.g., n) _____

Describe Sample Including Source and Known Properties (e.g. pH, concentration):

Applicable Hazardous Waste Codes (if known) _____

Special Precautions:

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles _____
(Acid & Base/Neutral) _____
Volatiles _____
Pesticides _____
Herbicides _____
Organophosphorous Pesticides _____
PCB _____
BETX _____
Total Petroleum Hydrocarbon _____

Organics Special Requests: _____

2. TOTAL METALS

ICP Metals Scan ☒
(Ag, As, Ba, Cd, Cr, Ni, Pb, Se)
Mercury _____
Xenon Special Requests: _____

HALF GALLON

NUTRIENTS

PCOL BOTTLES

METAL BOTTLES

AMBER BOTTLES

VOC VIALS

SULFIDES/PHENOLS

OIL AND GREASE

1-1 liter

Amber plastic

Pesticides _____
Herbicides _____

3. TCLP ORGANICS

Volatiles _____
Semi-Volatiles (Acid & Base/Neutral) _____
Additional Specific Organics for TCLP: _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) _____
Mercury _____

Additional Metals for TCLP: _____

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

Reviewed By: (HWMB): _____
Approved By: (HWMB): _____

Date: _____
Date: _____

Reviewed By (EPD Lab): RLM
Date (EPD Lab): 5-17-02

TNB

RECPT TEMP 0.0

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 15:40 Sample Collector: D. BROWNLEE Chlorination: Sample Type:
Sample ID: AD66200 Facility Name: Chrome Wheel/ Sw-3 -Hw90004 Site ID: HWMB Location ID: Location Descr: HW90004	Received By: TNB Date Received: 5/17/2002 Time Received: 10:58 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49097								
Total Cyanide	00720	EPA 335.4	Not Detected	ug/L	25	BS	5/21/2002	
Target analyte list Metals/ICPMS QC Batch 49132								
Bismuth 9	01012	6020	Not Detected	ug/L	5	PT	6/10/2002	
Vanadium 51	01087	6020	Not Detected	ug/L	50	PT	6/10/2002	
Chromium 52	01034	6020	Not Detected	ug/L	10	PT	6/10/2002	
Cobalt 59	01037	6020	Not Detected	ug/L	50	PT	6/10/2002	
Nickel 60	01067	6020	68	ug/L	40	PT	6/10/2002	
Copper 65	01042	6020	110	ug/L	25	PT	6/10/2002	
Zinc 68	01092	6020	64	ug/L	20	PT	6/10/2002	
Arsenic 75	01002	6020	64	ug/L	10	PT	6/10/2002	
Selenium 82	01147	6020	Not Detected	ug/L	5	PT	6/10/2002	
Silver 107	01077	6020	Not Detected	ug/L	10	PT	6/10/2002	
Cadmium 111	01027	6020	Not Detected	ug/L	5	PT	6/10/2002	
Antimony 121	01097	6020	Not Detected	ug/L	60	PT	6/10/2002	
Barium 137	01007	6020	Not Detected	ug/L	200	PT	6/10/2002	
Thallium 205	01059	6020	Not Detected	ug/L	10	PT	6/10/2002	
Lead 207	01051	6020	Not Detected	ug/L	3	PT	6/10/2002	
ICP TAL Metals in Water QC Batch 49124								
Aluminum	01105	6010B	2700	ug/L	200	LA	5/30/2002	
Calcium	00916	6010B	13000	ug/L	5000	LA	5/30/2002	
Iron	01045	6010B	1400	ug/L	100	LA	5/30/2002	
Potassium	00937	6010B	Not Detected	ug/L	5000	LA	5/30/2002	
Magnesium	00927	6010B	Not Detected	ug/L	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppm: parts per million
 ppb: parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER		EPA		QUALIFIER		ANALYSIS		MCL or QC Range
	CODE	NOTE	METHOD	RESULT	UNITS	RL	ANALYST	DATE	
Manganese	01055		6010B	62	ug/L	15	LA	5/30/2002	
Sodium	00929		6010B	5900	ug/L	5000	LA	5/30/2002	
QC Batch 49131									
Mercury	71900		EPA 7470A	Not Detected	ug/L	0.2	PB	5/21/2002	

COMMENTS: \$R_TAL_L: ICP Metals - Matrix Spike had two analytes, Aluminum (253% recovery, limits 70-130%), and Iron (136% recovery, limits 70-130%), with a percent recovery outside acceptable control limits due to high concentration of target analytes in sample. 2-053102-157

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: CWC

Sample Collected By/Phone: David Brownlee

Collection Date: 5/16/02

LAB No. _____

Date Submitted To Lab: 5/17/02

HWMB LOG NUMBER: 9005 SW-3 Dup

File a separate Request Sheet for each sample point

Analysis Needed By: _____

Routine ☒

Other (specify) _____

Sample Description (check one)

Waste _____

Ground Water _____

Soil/Sediment _____

Surface Water ☒

Concentration of Organics Requested (estimated): High _____ Low _____ Other _____

Describe Sample (including Source and Known Properties (e.g. pH, concentration);

Applicable Hazardous Waste Codes (if known) _____

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles _____

(Acid & Base/Neutral) _____

Volatiles _____

Pesticides _____

Herbicides _____

Organophosphorous Pesticides _____

PCB _____

BETX _____

Total Petroleum Hydrocarbon _____

Organics Special Requests: _____

3. TCLP ORGANICS

Volatiles _____

Semi-Volatiles (Acid & Base/Neutral) _____

Additional Specific Organics for TCLP: _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se) _____

Mercury _____

Preservation Confirmed

By pH

Additional Metals for TCLP: _____

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

Reviewed By: (HWMB): _____

Approved By: (HWMB): _____

Date: _____

Date: _____

Reviewed By: (EPD Lab): CHL

Date (EPD Lab): 5-17-02

RECPT TEMP 0.0

Sample ID AD66201

Location: HWMB

Description: CHROME WHEEL SW-3DUP HWMB

Collector: D. BROWNLEE

Sample ID: AD66201

TNB

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 15:40 Sample Collector: D. BROWNLEE Chlorination: Sample Type:
Sample ID: AD66201 Facility Name: Chrome Wheel/ Sw-3dup -Hw90005 Site ID: HWMB Location ID: Location Descr: HW90005	Received By: TNB Date Received: 5/17/2002 Time Received: 10:58 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA METHOD	RESULT	UNITS	QUALIFIER RL	ANALYST	ANALYSIS DATE	MCL or QC Range
QC Batch 49097								
Total Cyanide	00720	EPA 335.4	Not Detected	ug/L	25	BS	5/21/2002	
Target analyte list Metals\ICPMS QC Batch 49132								
Bismuth 9	01012	6020	Not Detected	ug/L	5	PT	6/7/2002	
Vanadium 51	01087	6020	Not Detected	ug/L	50	PT	6/7/2002	
Chromium 52	01034	6020	Not Detected	ug/L	10	PT	6/7/2002	
Cobalt 59	01037	6020	Not Detected	ug/L	50	PT	6/7/2002	
Nickel 60	01067	6020	68	ug/L	40	PT	6/7/2002	
Copper 65	01042	6020	100	ug/L	25	PT	6/7/2002	
Zinc 68	01092	6020	67	ug/L	20	PT	6/7/2002	
Arsenic 75	01002	6020	62	ug/L	10	PT	6/7/2002	
Selenium 82	01147	6020	Not Detected	ug/L	5	PT	6/7/2002	
Silver 107	01077	6020	Not Detected	ug/L	10	PT	6/7/2002	
Cadmium 111	01027	6020	Not Detected	ug/L	5	PT	6/7/2002	
Antimony 121	01097	6020	Not Detected	ug/L	60	PT	6/7/2002	
Barium 137	01007	6020	Not Detected	ug/L	200	PT	6/7/2002	
Thallium 205	01059	6020	Not Detected	ug/L	10	PT	6/7/2002	
Lead 207	01051	6020	Not Detected	ug/L	3	PT	6/7/2002	
ICP TAL Metals in Water QC Batch 49124								
Aluminum	01105	6010B	1800	ug/L	200	LA	5/30/2002	
Calcium	00916	6010B	13000	ug/L	5000	LA	5/30/2002	
Iron	01045	6010B	950	ug/L	100	LA	5/30/2002	
Potassium	00937	6010B	Not Detected	ug/L	5000	LA	5/30/2002	
Magnesium	00927	6010B	Not Detected	ug/L	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppb: parts per billion
 ppt: parts per trillion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER		EPA		QUALIFIER		ANALYSIS		MCL or QC Range
	CODE	NOTE	METHOD	RESULT	UNITS	RL	ANALYST	DATE	
Manganese	01055		6010B	46	ug/L	15	LA	5/30/2002	
Sodium	00929		6010B	6000	ug/L	5000	LA	5/30/2002	
QC Batch 49131									
Mercury	71900		EPA 7470A	Not Detected	ug/L	0.2	PB	5/21/2002	

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
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TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS

Facility Name/Location: CWC

Sample Collected By/Phone: David Brownlee

Collection Date: 5/16/02

LAB No. _____

Date Submitted To Lab: 5/17/02

HWMB LOG NUMBER: 9006 SED-4

File a separate Request Sheet for each sample point

Analysis Needed By:

Routine X

Other (specify) _____

Sample Description (check one)

Waste _____

Ground Water _____

Soil/Sediment X

Surface Water _____

Sample ID AD66208

Location: HWMB

Description: CHROME WHEEL SED-4 HW9006

Collector: D BROWNLEE

Sample ID: AD66208

Concentration of Organics Requested (estimated): High _____ Low _____ Other (s) _____

Describe Sample Including Source and Known Properties (e.g. pH, concentration):

Applicable Hazardous Waste Codes (if known) _____

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles _____

(Acid & Base/Neutral) _____

Volatiles _____

Pesticides _____

Herbicides _____

Organophosphorous Pesticides _____

PCB _____

BETX _____

Total Petroleum Hydrocarbon _____

Organics Special Requests: _____

HALF GALLONS/CYANIDE

NUTRIENTS/METALS X

ICP METALS SCAN

FCOL BOTTLES (Ag, As, Ba, Cd, Cr, Ni, Pb, Se)

METAL BOTTLES

AMBER BOTTLES

VOC VIALS

SULFIDES/PHENOLS

OIL AND GREASE

1-liter Amber plastic

Preservation Confirmed

By pH

Pesticides

Herbicides

3. TCLP ORGANICS

Volatiles _____

Semi-Volatiles (Acid & Base/Neutral) _____

Additional Specific Organics for TCLP: _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag, As, Ba, Cd, Cr, Ni, Pb, Se) _____

Mercury _____

Additional Metals for TCLP: _____

5. ADDITIONAL ANALYSIS REQUESTED (see list on back): Cyanide

Reviewed By: (HWMB) _____

Approved By: (HWMB) _____

Date: _____

Date: _____

Reviewed By: (EPD Lab) 4/17/02

Date (EPD Lab): 5-17-02

4 OZ. JARS
1 8 OZ. JARS
1 16 OZ. JARS

RECPT TEMP 0°C

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 16:00 Sample Collector: D BROWNEE Chlorination: Sample Type:
Sample ID: AD66208 Facility Name: Chrome Wheel Sed-4 Hw9006 Site ID: HWMB Location ID: Location Descr: HW9006	Received By: GHL Date Received: 5/17/2002 Time Received: 11:13 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 °C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49098								
Cyanide in Sediment	00721	9010B/9012	Not Detected	ug/kg (dw)	11000	BS	5/22/2002	
Target analyte list for solids QC Batch 49146								
Sulfur	01078	6010 B	Not Detected	ug/kg (dw)	1000	LA	5/30/2002	
Aluminum	01108	6010 B	22000000	ug/kg (dw)	200000	LA	5/30/2002	
Arsenic	01003	6010 B	56000	ug/kg (dw)	8000	LA	5/30/2002	
Barium	01008	6010 B	51000	ug/kg (dw)	20000	LA	5/30/2002	
Beryllium	01013	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Calcium	00917	6010 B	4300000	ug/kg (dw)	500000	LA	5/30/2002	
Cadmium	01028	6010 B	Not Detected	ug/kg (dw)	500	LA	5/30/2002	
Cobalt	01038	6010 B	21000	ug/kg (dw)	5000	LA	5/30/2002	
Chromium	01029	6010 B	110000	ug/kg (dw)	1000	LA	5/30/2002	
Copper	01043	6010 B	100000	ug/kg (dw)	2500	LA	5/30/2002	
Iron	01170	6010 B	16000000	ug/kg (dw)	100000	LA	5/30/2002	
Potassium	00938	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Magnesium	00924	6010 B	8800000	ug/kg (dw)	500000	LA	5/30/2002	
Manganese	01053	6010 B	330000	ug/kg (dw)	1500	LA	5/30/2002	
Sodium	00934	6010 B	Not Detected	ug/kg (dw)	500000	LA	5/30/2002	
Nickel	01068	6010 B	190000	ug/kg (dw)	4000	LA	5/30/2002	
Lead	01052	6010 B	Not Detected	ug/kg (dw)	9000	LA	5/30/2002	
Antimony	01098	6010 B	Not Detected	ug/kg (dw)	12000	LA	5/30/2002	
Selenium	01148	6010 B	Not Detected	ug/kg (dw)	19000	LA	5/30/2002	
Thallium	34480	6010 B	Not Detected	ug/kg (dw)	20000	LA	5/30/2002	
Vanadium	01088	6010 B	21000	ug/kg (dw)	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppb: parts per billion
 ppt: parts per trillion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER CODE	NOTE	EPA METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
Zn	01093		6010 B	63000	ug/kg (dw)	2000	LA	5/30/2002	
QC Batch 49142									
Mercury			EPA 7471A	Not Detected	ug/kg (dw)	100	PB	5/22/2002	

COMMENTS: \$R_TAL_S: ICP Metals - Matrix Spike had eight analytes, Aluminum (11000% recovery, limits 70-130%), Calcium (134% recovery, limits 70-130%), Chromium (164% recovery, limits 70-130%), Copper (154% recovery, limits 70-130%), Iron (5000% recovery, limits 70-130%), Magnesium (168% recovery, limits 70-130%), Manganese (162% recovery, limits 70-130%), and Nickel (174% recovery, limits 70-130%), with a percent recovery outside acceptable control limits due to high concentration of target analytes in sample. Matrix spike had one analyte, Antimony (42.6% recovery, limits 70-130%) with percent recovery outside acceptable control limits due to matrix interference. 2-053102-158

COMMENTS: TAL_S: \$ ICP Metals - Reporting limits raised due to elevated levels of target analytes in sample

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

**HAZARDOUS WASTE MANAGEMENT BRANCH (HWMB)
REQUEST FOR LABORATORY ANALYSIS**

Facility Name/Location: CWC

Sample Collected By/Phone: David Braunter

Collection Date: 5/16/02 LAB No. _____

Date Submitted To Lab: 5/17/02

HWMB LOG NUMBER: Field Blank

File a separate Request Sheet for each sample point)

Analysis Needed By: Routine ☒ Other (specify) _____

Sample Description (check one)

Waste _____
Ground Water _____

Soil/Sediment _____
Surface Water ☒



Sample ID AD66204
Location HWMB
Description: CHROME WHEEL/ HW FIELD BLANK
Collector: D. BROWNLEE
Sample ID: AD66204

Concentration of Organics Requested (estimated): High _____ Low _____ Other () _____

Describe Sample Including Source and Known Properties (e.g. pH, concentration);

Applicable Hazardous Waste Codes (if known) _____

Special Precautions: _____

ANALYSIS REQUIRED

(Note: Totals will always be run first. A TCLP will subsequently be run only if the total value indicates a positive TCLP could results)

1. TOTAL ORGANICS

Semi-Volatiles _____
(Acid & Base/Neutral) _____
Volatiles _____
Pesticides _____
Herbicides _____
Organophosphorous Pesticides _____
PCB _____
BETX _____
Total Petroleum Hydrocarbon _____

NUTRIENTS/SULFATES ☒

FCOL BOTTLES ☒
(Ag,As,Ba,Cd,Cr,Ni,Pb,Se)

METAL BOTTLES ☒
Metals Special Requests: _____

AMBER BOTTLES _____

VOC VIALS _____

SULFIDES/PRENOLS _____

OIL AND GREASE _____

Organics Special Requests: 1-1 liter

3. TCLP ORGANICS

Volatiles _____
Semi-Volatiles (Acid & Base/Neutral) _____
Additional Specific Organics for TCLP: _____

*Preservation Confirmed
By pH*

Pesticides _____
Herbicides _____

4. TCLP METALS ANALYSIS

TCLP Metals (Ag,As,Ba,Cd,Cr,Ni,Pb,Se) _____
Mercury _____

Additional Metals for TCLP: _____

5. ADDITIONAL ANALYSIS REQUESTED (see list on back):

Cyanide

TNB

Reviewed By: (HWMB): _____
Approved By: (HWMB): _____

Date: _____
Date: _____

Reviewed By: (EPO Lab): AMC
Date (EPO Lab): 5-17-02

RECPT TEMP 0.0

**GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION**

455 14th Street NW, Atlanta, GA 30318-7900
(404) 206-5269

LABORATORY REPORT

TO: Georgia Env Protection Divison Hazardous Waste Mgmt Branch 205 Butler St SE Suite 1154E Atlanta, GA 30334		Date Collected: 5/16/2002 Time Collected: 15:40 Sample Collector: D. BROWNLEE Chlorination: Sample Type:
Sample ID: AD66204 Facility Name: Chrome Wheel/ Hw Field Blank Site ID: HWMB Location ID: Location Descr: HW FIELD BLANK	Received By: TNB Date Received: 5/17/2002 Time Received: 10:58 AM Project: HW Reporting Date: 6/12/2002 Received Temperature: 0.0 ° C	

ANALYTE	PARAMETER CODE	EPA NOTE METHOD	RESULT	UNITS	QUALIFIER RL	ANALYSIS ANALYST	DATE	MCL or QC Range
QC Batch 49097								
Total Cyanide	00720	EPA 335.4	Not Detected	ug/L	25	BS	5/21/2002	
Target analyte list Metals/ICPMS QC Batch 49132								
Bismuth 9	01012	6020	Not Detected	ug/L	5	PT	6/7/2002	
Vanadium 51	01087	6020	Not Detected	ug/L	50	PT	6/7/2002	
Chromium 52	01034	6020	Not Detected	ug/L	10	PT	6/7/2002	
Cobalt 59	01037	6020	Not Detected	ug/L	50	PT	6/7/2002	
Nickel 60	01067	6020	Not Detected	ug/L	40	PT	6/7/2002	
Copper 65	01042	6020	Not Detected	ug/L	25	PT	6/7/2002	
Zinc 68	01092	6020	Not Detected	ug/L	20	PT	6/7/2002	
Arsenic 75	01002	6020	Not Detected	ug/L	10	PT	6/7/2002	
Selenium 82	01147	6020	Not Detected	ug/L	5	PT	6/7/2002	
Silver 107	01077	6020	Not Detected	ug/L	10	PT	6/7/2002	
Cadmium 111	01027	6020	Not Detected	ug/L	5	PT	6/7/2002	
Antimony 121	01097	6020	Not Detected	ug/L	60	PT	6/7/2002	
Barium 137	01007	6020	Not Detected	ug/L	200	PT	6/7/2002	
Thallium 205	01059	6020	Not Detected	ug/L	10	PT	6/7/2002	
Lead 207	01051	6020	Not Detected	ug/L	3	PT	6/7/2002	
ICP TAL Metals in Water QC Batch 49124								
Aluminum	01105	6010B	Not Detected	ug/L	200	LA	5/30/2002	
Calcium	00916	6010B	Not Detected	ug/L	5000	LA	5/30/2002	
Iron	01045	6010B	Not Detected	ug/L	100	LA	5/30/2002	
Potassium	00937	6010B	Not Detected	ug/L	5000	LA	5/30/2002	
Magnesium	00927	6010B	Not Detected	ug/L	5000	LA	5/30/2002	

ug/L: micrograms/liter
 mg/L: milligrams/liter
 mg/kg: milligrams/kilogram
 ug/kg: micrograms/kilogram
 ug/g: micrograms/gram
 ppm: parts per million
 ppb: parts per billion
 org/L: organisms/liter

<: less than
 MCL: Maximum Contaminant Level
 RL: Reporting Limit
 LSPC: result less than lower specification
 USPC: result greater than upper specification
 TIE: Tentatively Identified or Estimated
 VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

ANALYTE	PARAMETER	EPA	RESULT	UNITS	QUALIFIER	RL	ANALYST	ANALYSIS DATE	MCL or QC Range
	CODE	METHOD							
Manganese	01055	6010B	Not Detected	ug/L		15	LA	5/30/2002	
Sulfam	00929	6010B	Not Detected	ug/L		5000	LA	5/30/2002	
QC Batch 49131									
Mercury	71900	EPA 7470A	Not Detected	ug/L		0.2	PB	5/21/2002	

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
m: parts per million
b: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

Laboratory Contacts:

Inorganics:	Pat Sammons	404-206-5239
Metals:	Mark Tolbert	404-206-5240
Organics:	Danny Reed	404-206-5252
GC Mass Spec:	Steve Bryan	404-206-5260
Microbiology:	Viola Reynolds	404-206-5210

QA/QC BATCH REPORT

To: Georgia Env Protection Divison
Hazardous Waste Mgmt Branch
205 Butler St SE Suite 1154E
Atlanta, GA 30334

Sample ID: AD66208

QA/QC Batch Name: HGTALS-49142

Samples in Batch #: 49142

Location Code: HWMB

Project: HW

Date Collected: 5/16/2002 4:00:00 PM

Sample Description: CHROME WHEEL SED-4 HW9006

AD66208	AD66211	AD66213	AD66215
AD66218	AD66220		

Date Received: 5/17/2002 11:13:00 AM

Analysis/Analyte	Result ug/kg (dw)	Method Blank ug/kg (dw)	Amount Spiked ug/kg (dw)	MS Result ug/kg (dw)	MS Dup Result ug/kg (dw)	MS Dup Precision ug/kg (dw)	MS Recovery %	LCS Result %	LCS Dup Result ug/kg (dw)	LCS Dup Precision ug/kg (dw)	LCS Recovery %
HGTALS	ND	<100	600	601	640	6.29	103	619	619	0.00	103

QA/QC BATCH REPORT

To: Georgia Env Protection Divison
Hazardous Waste Mgmt Branch
205 Butler St SE Suite 1154E
Atlanta, GA 30334

Sample ID: AD66208

Location Code: HWMB

Date Collected: 5/16/2002 4:00:00 PM

Date Received: 5/17/2002 11:13:00 AM

QA/QC Batch Name: \$TAL_S-49146

Project: HW

Sample Description: CHROME WHEEL SED-4 HW9006

Samples in Batch #: 49146

AD66208	AD66211	AD66213	AD66215
AD66218	AD66220		

Analysis/Analyte	Result ug/kg (dw)	Method Blank ug/kg	Amount Spiked ug/kg	MS Result ug/kg	MS Dup Result ug/kg	MS Dup Precision RPD	MS Recovery %	LCS Result ug/kg	LCS Dup Result ug/kg	LCS Dup Precision RPD	LCS Recovery %
\$TAL_S Aluminum	22000000	<200	100000	33000000	33000000	0.00	U*11000	102000	97400	4.61	102
\$TAL_S Antimony	ND	<60	50000	21300	19900	6.80	L*42.6	51300	52100	1.55	103
\$TAL_S Arsenic	56000	<80	50000	113000	116000	2.62	114	54400	51300	5.87	109
\$TAL_S Barium	51000	<200	50000	113000	115000	1.75	124	51700	48400	6.59	103
\$TAL_S Beryllium	ND	<5	50000	48500	48400	0.206	97.0	51600	48400	6.40	103
\$TAL_S Cadmium	ND	<5	50000	44000	43400	1.37	88.0	52700	49600	6.06	105
\$TAL_S Calcium	4300000	<5000	2500000	7660000	7610000	0.655	U*134	2410000	2270000	5.98	96.4
\$TAL_S Chromium	110000	<10	50000	192000	191000	0.522	U*164	52400	49500	5.69	105
\$TAL_S Cobalt	21000	<50	50000	73100	72900	0.274	104	52200	49300	5.71	104
\$TAL_S Copper	100000	<25	50000	177000	179000	1.12	U*154	50500	47200	6.76	101
\$TAL_S Iron	16000000	<100	100000	21000000	21000000	0.00	U*5000	105000	98300	6.59	105
\$TAL_S Lead	ND	<90	50000	52600	50600	3.88	105	53800	49100	9.14	108
\$TAL_S Magnesium	8800000	<5000	2500000	13000000	13000000	0.00	U*168	2700000	2540000	6.11	108
\$TAL_S Manganese	330000	<15	50000	411000	407000	0.978	U*162	51700	48700	5.98	103
\$TAL_S Nickel	190000	<40	50000	277000	277000	0.00	U*174	51200	48800	4.80	102
\$TAL_S Potassium	ND	<5000	2500000	2740000	2750000	0.364	110	2640000	2460000	7.06	106
\$TAL_S Selenium	ND	<190	50000	41000	35400	14.7	82.0	55800	49900	11.2	112
\$TAL_S Silver	ND	<10	10000	8590	8530	0.701	85.9	10500	9850	6.39	105
\$TAL_S Sodium	ND	<5000	2500000	3020000	3060000	1.32	121	2590000	2430000	6.37	104
\$TAL_S Thallium	ND	<200	50000	60000	57000	5.13	120	51000	49600	2.78	102
\$TAL_S Vanadium	21000	<50	50000	78100	78400	0.383	114	52800	49700	6.05	106
\$TAL_S Zinc	63000	<20	50000	127000	126000	0.791	128	51800	48800	5.96	104

Comments: \$R_TAL_S: ICP Metals - Matrix Spike had eight analytes, Aluminum (11000% recovery, limits 70-130%), Calcium (134% recovery, limits 70-130%), Chromium (164% recovery, limits 70-130%), Copper (154% recovery, limits 70-130%), Iron (5000% recovery, limits 70-130%), Magnesium (168% recovery, limits 70-130%), Manganese (162% recovery, limits 70-130%), and Nickel (174% recovery, limits 70-130%), with a percent recovery outside acceptable control limits due to high concentration of target analytes in sample. Matrix spike had one analyte, Antimony (42.6% recovery, limits 70-130%) with percent recovery outside acceptable control limits due to matrix interference. 2-053102-158

Comments: TAL_S: \$ ICP Metals - Reporting limits raised due to elevated levels of target analytes in sample

QA/QC BATCH REPORT

To: Georgia Env Protection Division
Hazardous Waste Mgmt Branch
205 Butler St SE Suite 1154E
Atlanta, GA 30334

Sample ID: AD66208

Location Code: HWMB

Date Collected: 5/16/2002 4:00:00 PM

Date Received: 5/17/2002 11:13:00 AM

QA/QC Batch Name: CNTALS-49098

Project: HW

Sample Description: CHROME WHEEL SED-4 HW9006

Samples in Batch #: 49098

AD66208	AD66211	AD66213	AD66215
AD66218	AD66220		

Analysis/Analyte	Result ug/kg (dw)	Method Blank ug/kg (dw)	Amount Spiked ug/kg (dw)	MS Result ug/kg (dw)	MS Dup Result ug/kg (dw)	MS Dup Precision RPD	MS Recovery %	LCS Result ug/kg (dw)	LCS Dup Result ug/kg (dw)	LCS Dup Precision RPD	LCS Recovery %
CNTALS	ND	<9000	20000	19800	19800	0.00	99.0	18800	18800	0.000	94.0

QA/QC BATCH REPORT

To: Georgia Env Protection Divison
Hazardous Waste Mgmt Branch
205 Butler St SE Suite 1154E
Atlanta, GA 30334

Sample ID: AD66200

Location Code: HWMB

Date Collected: 5/16/2002 3:40:00 PM

Date Received: 5/17/2002 10:58:00 AM

QA/QC Batch Name: \$TAL_L-49124

Project: HW

Sample Description: CHROME WHEEL/ SW-3 -HW90004

Samples in Batch #: 49124

AD66200	AD66201	AD66204
---------	---------	---------

Analysis/Analyte	Result ug/L	Method Blank ug/L	Amount Spiked ug/L	MS Result ug/L	MS Dup Result ug/L	MS Dup Precision RPD	MS Recovery %	LCS Result ug/L	LCS Dup Result ug/L	LCS Dup Precision RPD	LCS Recovery %
\$TAL_L Aluminum	2700	<200	1000	5230	5220	0.191	U*253	1040	1030	0.966	104
\$TAL_L Calcium	13000	<5000	25000	37000	36800	0.542	96.0	24200	24300	0.412	96.8
\$TAL_L Iron	1400	<100	1000	2760	2750	0.363	U*136	1030	1030	0.00	103
\$TAL_L Magnesium	ND	<5000	25000	31300	31200	0.320	125	27100	27200	0.368	108
\$TAL_L Manganese	62	<15	500	552	550	0.363	98.0	517	520	0.579	103
\$TAL_L Potassium	ND	<5000	25000	29100	29000	0.344	116	25800	25900	0.387	103
\$TAL_L Sodium	5900	<5000	25000	31600	31600	0.00	103	25800	25900	0.387	103

Comments: \$R_TAL_L: ICP Metals - Matrix Spike had two analytes, Aluminum (253% recovery, limits 70-130%), and Iron (136% recovery, limits 70-130%), with a percent recovery outside acceptable control limits due to high concentration of target analytes in sample. 2-053102-157

QA/QC BATCH REPORT

To: Georgia Env Protection Divison
Hazardous Waste Mgmt Branch
205 Butler St SE Suite 1154E
Atlanta, GA 30334

Sample ID: AD66200

Location Code: HWMB

Date Collected: 5/16/2002 3:40:00 PM

Date Received: 5/17/2002 10:58:00 AM

QA/QC Batch Name: HG7470-49131

Project: HW

Sample Description: CHROME WHEEL/ SW-3 -HW90004

Samples in Batch #: 49131

AD66200	AD66201	AD66204
---------	---------	---------

Analysis/Analyte	Result ug/L	Method Blank ug/L	Amount Spiked ug/L	MS Result ug/L	MS Dup Result ug/L	MS Dup Precision % RSD	MS Recovery %	LCS Result ug/L	LCS Dup Result ug/L	LCS Dup Precision RPD	LCS Recovery %
HG7470	ND	<0.2	3.00	3.22	3.30	2.45	109	3.20	3.07	4.15	107

QA/QC BATCH REPORT

To:

To: Georgia Env Protection Division
Hazardous Waste Mgmt Branch
205 Butler St SE Suite 1154E
Atlanta, GA 30334

Sample ID: AD66204
Location Code: HWMB
Date Collected: 5/16/2002 3:40:00 PM
Date Received: 5/17/2002 10:58:00 AM

QA/QC Batch Name: \$IMSTL-49132
Project: HW
Sample Description: CHROME WHEEL/ HW FIELD BLANK

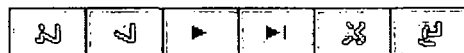
Samples in Batch #: 49132
AD66200 AD66201 AD66204

CN

Analysis/Analyte	Result ug/L	Method Blank ug/L	Amount Spiked ug/L	MS Result ug/L	MS Dup Result ug/L	MS Dup Precision RPD	MS Recovery %	LCS Result ug/L	LCS Dup Result ug/L	LCS Dup Precision RPD	LCS Recovery %
\$IMSTL Antimony 121	ND	<60	100	112	113	0.889	112	108	107	0.930	108
\$IMSTL Arsenic 75	ND	<10	100	107	112	4.57	107	106	101	4.83	106
\$IMSTL Barium 137	ND	<200	100	194	192	1.04	114	109	105	3.74	109
\$IMSTL Beryllium 9	ND	<5	100	110	113	2.69	110	107	104	2.84	107
\$IMSTL Cadmium 111	ND	<5	100	106	108	1.87	106	107	103	3.81	107
\$IMSTL Chromium 52	ND	<10	100	108	112	3.64	108	106	102	3.85	106
\$IMSTL Cobalt 59	ND	<50	100	107	109	1.85	107	107	104	2.84	107
\$IMSTL Copper 65	ND	<25	100	109	114	4.48	109	109	106	2.79	109
\$IMSTL Lead 207	ND	<3	100	110	112	1.80	110	108	107	0.930	108
\$IMSTL Nickel 60	ND	<40	100	107	111	3.67	107	106	103	2.87	106
\$IMSTL Selenium 82	ND	<5	500	527	554	5.00	105	527	508	3.67	105
\$IMSTL Silver 107	ND	<10	20	21.5	21.6	0.464	108	21.0	20.9	0.477	105
\$IMSTL Thallium 205	ND	<10	100	119	124	4.12	119	113	125	10.1	113
\$IMSTL Vanadium 51	ND	<50	100	103	111	7.48	103	105	100	4.88	105
\$IMSTL Zinc 68	ND	<20	100	113	113	0.00	113	107	107	0.00	107

CNT/

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007440-36-0

Chemical Name: Antimony

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.0000
Gas Migration:	0

GROUND WATER PATHWAY

Parameter	Value
Toxicity:	10000
Water Solub:	2.6E+03
Distrib:	4.5E+01

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY**Drinking Water**

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

Human Food Chain

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	0.5
Salt:	0.5

Environmental

Parameter	Value
Fresh Tox:	100
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	5.0

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CAS #: 007440-36-0

Chemical Name: Antimony

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		ug/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	3.1E+01	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	6.0E-03	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.5E-02	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	6.0E-03	pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAYDrinking Water

Parameter	Value	Unit
MCLG:	6.0E-03	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.5E-02	mg/L

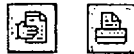
Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:		ug/L
Salt AWQC:		ug/L
Fresh AALAC:		ug/L
Salt AALAC:		ug/L
CHRONIC		
Fresh AWQC:		ug/L
Salt AWQC:		ug/L
Fresh AALAC:		ug/L
Salt AALAC:		ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	5.4E-01	mg/kg

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007440-38-2

Chemical Name: Arsenic

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.0000
Gas Migration:	0

GROUND WATER PATHWAY

Parameter	Value
Toxicity:	10000
Water Solub:	1.2E+03
Distrib:	2.0E+02

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY**Drinking Water**

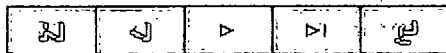
Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

Human Food Chain

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	500.0

Environmental

Parameter	Value
Fresh Tox:	10
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0



CAS #: 007440-38-2

Chemical Name: Arsenic

BENCHMARKS**AIR PATHWAY**

Parameter	Value	Unit
NAAQS/NESHAPS:		ug/m3
Cancer Risk:	5.7E-07	mg/m3
Non Cancer Risk:		mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:	4.3E-01	mg/kg
Non Cancer Risk:	2.3E+01	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	5.0E-02	mg/L
Cancer Risk:	5.7E-05	mg/L
Non Cancer Risk:	1.1E-02	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	5.0E-02	pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY**Drinking Water**

Parameter	Value	Unit
MCLG:	5.0E-02	mg/L
Cancer Risk:	5.7E-05	mg/L
Non Cancer Risk:	1.1E-02	mg/L

Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	1.9E+02	ug/L
Salt AWQC:	1.9E+02	ug/L
Fresh AALAC:	1.9E+02	ug/L
Salt AALAC:	1.9E+02	ug/L
CHRONIC		
Fresh AWQC:	1.9E+02	ug/L
Salt AWQC:	1.9E+02	ug/L
Fresh AALAC:	1.9E+02	ug/L
Salt AALAC:	1.9E+02	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:	2.1E-03	mg/kg
Non Cancer Risk:	4.1E-01	mg/kg

SUPERFUND CHEMICAL DATA MATRIX



View Page Two

CAS #: 007440-47-3

Chemical Name: Chromium

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	5.0E-03	mg/kg/day	IRIS
Inhal RfD:		mg/kg/day	
Oral Slope:		(mg/kg/day) ⁻¹ *	
Oral Wt-of-Evid:			
Inhal Slope:	4.2E+01	(mg/kg/day) ⁻¹ *	IRIS
Inhal Wt-of-Evid:	A		IRIS
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10:	2.6E-03	mg/kg/day	SPHEM
Inhal ED10 Wgt:	A		SPHEM
Oral LD50:		mg/kg	
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	

*For radionuclides, the Unit is (pCi)⁻¹

*For radionuclide weights of evidence, the source is NA

Fresh AWQC:	1.6E+01	ug/L	WATCRIT
Salt AWQC:	1.1E+03	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	

TOXICITY (cont.)

Parameter	Value	Unit	Source
CHRONIC			
Fresh AWQC:	1.1E+01	ug/L	WATCRIT
Salt AWQC:	5.0E+01	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	
Fresh Ecol LC50:	2.2E+01	ug/L	AQUIRE
Salt Ecol LC50:	2.0E+03	ug/L	AQUIRE

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halfives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	

RIVER - Halfives

Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:			



CAS #: 007440-47-3

Chemical Name: Chromium

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m ³ /mol	
Water Solub:		mg/L	
Distrib Coef:	1.9E+01	mL/g	SSG_KD
Geo. Mean Sol:	7.9E+04		

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	1.0E+00		VER_BCF
Salt BCF:	1.9E+02		VER_BCF

ENVIRONMENTAL

Fresh BCF:	1.0E+00		VER_BCF
Salt BCF:	1.9E+02		VER_BCF
Log Kow:			
Water Solub:		mg/L	

PHYSICAL CHARACTERISTICS

Parameter	Value
Metal Contain:	True
Organic:	False
Gas:	False
Particulate:	True
Radionuclide:	False
Rad. Element:	False
Molecular Weight:	5.200E+01
Density:	7.1E+00 g/mL @ degrees C

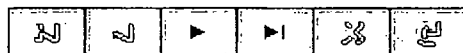
OTHER DATA

Melting Point:	1900 degrees C
Boiling Point:	2642 degrees C
Formula:	Cr

CLASS INFORMATION

Toxicity:	018540-29-9
GW Mob:	018540-29-9
Other:	

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007440-47-3

Chemical Name: Chromium

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.0000
Gas Migration:	0

GROUND WATER PATHWAY

Parameter	Value
Toxicity:	10000
Water Solub:	7.9E+04
Distrib:	1.9E+01

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAYDrinking Water

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

Human Food Chain

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	500.0

Environmental

Parameter	Value
Fresh Tox:	100
Salt Tox:	100
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5.0
Salt:	500.0



CAS #: 007440-47-3

Chemical Name: Chromium

BENCHMARKS**AIR PATHWAY**

Parameter	Value	Unit
NAAQS/NESHAPS:		ug/m3
Cancer Risk:	2.0E-07	mg/m3
Non Cancer Risk:		mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	3.9E+02	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.0E-01	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.8E-01	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	1.0E-01	pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY**Drinking Water**

Parameter	Value	Unit
MCL/MCLG:	1.0E-01	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.8E-01	mg/L

Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	1.1E+01	ug/L
Salt AWQC:	1.1E+01	ug/L
Fresh AALAC:	1.1E+01	ug/L
Salt AALAC:	1.1E+01	ug/L
CHRONIC		
Fresh AWQC:	1.1E+01	ug/L
Salt AWQC:	1.1E+01	ug/L
Fresh AALAC:	1.1E+01	ug/L
Salt AALAC:	1.1E+01	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	6.8E+00	mg/kg

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007440-50-8

Chemical Name: Copper

AIR PATHWAY

Parameter Value

Toxicity: Gas Mobility: Gas Migration: GROUND WATER PATHWAY

Parameter Value

Toxicity: Water Solub: Distrib: SOIL EXPOSURE PATHWAY

Parameter Value

Toxicity: Drinking Water

Parameter Value

Toxicity: Persistence
River: Lake: Human Food Chain

Parameter Value

Toxicity: Persistence
River: Lake:

Bioaccumulation

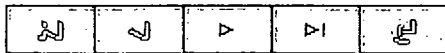
Fresh: Salt: Environmental

Parameter Value

Fresh Tox: Salt Tox: Persistence
River: Lake:

Bioaccumulation

Fresh: Salt:



CAS #: 007440-50-8

Chemical Name: Copper

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:	<input type="text"/>	ug/m3
Cancer Risk:	<input type="text"/>	mg/m3
Non Cancer Risk:	<input type="text"/>	mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:	<input type="text"/>	mg/kg
Non Cancer Risk:	<input type="text"/>	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	<input type="text" value="1.3E+00"/>	mg/L
Cancer Risk:	<input type="text"/>	mg/L
Non Cancer Risk:	<input type="text"/>	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	<input type="text" value="1.3E+00"/>	pCi/L
UMTRCA:	<input type="text"/>	pCi/kg
CANCER RISK		
Air:	<input type="text"/>	pCi/m3
DW:	<input type="text"/>	pCi/L
FC:	<input type="text"/>	pCi/kg
Soil Ing:	<input type="text"/>	pCi/kg
Soil Gam:	<input type="text"/>	pCi/kg

SURFACE WATER PATHWAY

Drinking Water

Parameter	Value	Unit
MCL/MCLG:	<input type="text" value="1.3E+00"/>	mg/L
Cancer Risk:	<input type="text"/>	mg/L
Non Cancer Risk:	<input type="text"/>	mg/L

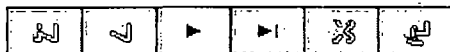
Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	<input type="text" value="1.2E+01"/>	ug/L
Salt AWQC:	<input type="text" value="1.2E+01"/>	ug/L
Fresh AALAC:	<input type="text" value="1.2E+01"/>	ug/L
Salt AALAC:	<input type="text" value="1.2E+01"/>	ug/L
CHRONIC		
Fresh AWQC:	<input type="text" value="1.2E+01"/>	ug/L
Salt AWQC:	<input type="text" value="1.2E+01"/>	ug/L
Fresh AALAC:	<input type="text" value="1.2E+01"/>	ug/L
Salt AALAC:	<input type="text" value="1.2E+01"/>	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:	<input type="text"/>	ppm
Cancer Risk:	<input type="text"/>	mg/kg
Non Cancer Risk:	<input type="text"/>	mg/kg

SUPERFUND CHEMICAL DATA MATRIX



View Page Two

CAS #: 000057-12-5

Chemical Name: Cyanide

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	2.0E-02	mg/kg/day	IRIS
Inhal RfD:		mg/kg/day	
Oral Slope:		(mg/kg/day) ⁻¹ *	
Oral Wt-of-Evid:			
Inhal Slope:		(mg/kg/day) ⁻¹ *	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10:		mg/kg/day	
Inhal ED10 Wgt:			
Oral LD50:	6.0E+00	mg/kg	ACGIH
Dermal LD50:		mg/kg	
Gas Inhal LC50:	1.0E+02	ppm	ACGIH
Dust Inhal LC50:		mg/L	

*For radionuclides, the Unit is (pCi)⁻¹

* For radionuclide weights of evidence, the source is NATE

Fresh AWQC:	2.2E+01	ug/L	WATCRIT
Salt AWQC:	1.0E+00	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	

TOXICITY (cont.)

Parameter	Value	Unit	Source
CHRONIC			
Fresh AWQC:	5.0E+00	ug/L	WATCRIT
Salt AWQC:		ug/L	
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	
Fresh Ecol LC50:	4.3E+02	ug/L	AQUIRE
Salt Ecol LC50:	1.1E+02	ug/L	AQUIRE

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	

RIVER - Halflives

Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:			



CAS #: 000057-12-5

Chemical Name: Cyanide

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	9.9E+00	mL/g	
Geo. Mean Sol:			

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:			
Salt BCF:			

ENVIRONMENTAL

Fresh BCF:			
Salt BCF:			
Log Kow:			
Water Solub:		mg/L	

PHYSICAL CHARACTERISTICS

Parameter	Value
Metal Contain:	False
Organic:	False
Gas:	False
Particulate:	True
Radionuclide:	False
Rad. Element:	False
Molecular Weight:	
Density:	
	g/mL @ degrees C

OTHER DATA

Melting Point:		degrees	C
Boiling Point:		degrees	C
Formula:	CN(-)		

CLASS INFORMATION

Toxicity:	
GW Mob:	
Other:	

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 000057-12-5

Chemical Name: Cyanide

AIR PATHWAY**Parameter Value**

Toxicity: 100

Gas Mobility: 0.0000

Gas Migration: 0

GROUND WATER PATHWAY**Parameter Value**

Toxicity: 100

Water Solub:

Distrib: 9.9E+00

SOIL EXPOSURE PATHWAY**Parameter Value**

Toxicity: 100

Drinking Water**Parameter Value**

Toxicity: 100

Persistence

River: 0.4000

Lake: 0.0700

Human Food Chain**Parameter Value**

Toxicity: 100

Persistence

River: 0.4000

Lake: 0.0700

Bioaccumulation

Fresh: 0.5

Salt: 0.5

Environmental**Parameter Value**

Fresh Tox: 1000

Salt Tox: 1000

Persistence

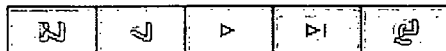
River: 0.4000

Lake: 0.0700

Bioaccumulation

Fresh: 0.5

Salt: 0.5



CAS #: 000057-12-5

Chemical Name: Cyanide

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		ug/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	1.6E+03	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	2.0E-01	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-01	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	2.0E-01	pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

Drinking Water

Parameter	Value	Unit
MCL/MCLG:	2.0E-01	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-01	mg/L

Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	5.2E+00	ug/L
Salt AWQC:	5.2E+00	ug/L
Fresh AALAC:	5.2E+00	ug/L
Salt AALAC:	5.2E+00	ug/L
CHRONIC		
Fresh AWQC:	5.2E+00	ug/L
Salt AWQC:	5.2E+00	ug/L
Fresh AALAC:	5.2E+00	ug/L
Salt AALAC:	5.2E+00	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	2.7E+01	mg/kg

SUPERFUND CHEMICAL DATA MATRIX



View Page Two

CAS #: 007439-92-1

Chemical Name: Lead

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:		mg/kg/day	
Inhal RfD:		mg/kg/day	
Oral Slope:		(mg/kg/day) ⁻¹ *	
Oral Wt-of-Evid:	*		
Inhal Slope:		(mg/kg/day) ⁻¹ *	
Inhal Wt-of-Evid:	*		
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:	*		
Inhal ED10:		mg/kg/day	
Inhal ED10 Wgt:	*		
Oral LD50:		mg/kg	
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	

*For radionuclides, the Unit is (pCi)⁻¹

* For radionuclide weights of evidence, the source is NA

Fresh AWQC:	8.2E+01	ug/L	WATCRIT
Salt AWQC:	2.2E+02	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	

TOXICITY (cont.)

Parameter	Value	Unit	Source
CHRONIC			
Fresh AWQC:	3.0E+00	ug/L	WATCRIT
Salt AWQC:	8.5E+00	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	
Fresh Ecol LC50:	5.3E+02	ug/L	AQUIRE
Salt Ecol LC50:	3.1E+03	ug/L	AQUIRE

PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halfives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	

RIVER - Halfives

Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:			



CAS #: 007439-92-1

Chemical Name: Lead

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m ³ /mol	
Water Solub:		mg/L	
Distrib Coef:	9.0E+02	mL/g	BAES_KD
Geo. Mean Sol:	1.5E-01		

BIOACCUMULATION

Parameter	Value	Unit	Source
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FOOD CHAIN

Fresh BCF:	4.5E+01		VER_BCF
Salt BCF:	2.6E+03		VER_BCF

ENVIRONMENTAL

Fresh BCF:	1.7E+03		VER_BCF
Salt BCF:	2.6E+03		VER_BCF
Log Kow:			
Water Solub:		mg/L	

PHYSICAL CHARACTERISTICS

Parameter	Value
Metal Contain:	True
Organic:	False
Gas:	False
Particulate:	True
Radionuclide:	False
Rad. Element:	False
Molecular Weight:	2.072E+02
Density:	1.1E+01 g/mL @ 16 degrees C

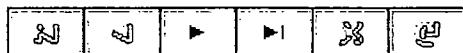
OTHER DATA

Melting Point:	328 degrees C
Boiling Point:	1740 degrees C
Formula:	Pb

CLASS INFORMATION

Toxicity:	
GW Mob:	
Other:	

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007439-92-1

Chemical Name: Lead

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.0000
Gas Migration:	0

GROUND WATER PATHWAY

Parameter	Value
Toxicity:	10000
Water Solub:	1.5E-01
Distrib:	9.0E+02

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY**Drinking Water**

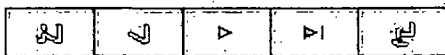
Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

Human Food Chain

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	50.0
Salt:	5000.0

Environmental

Parameter	Value
Fresh Tox:	1000
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	5000.0
Salt:	5000.0



CAS #: 007439-92-1

Chemical Name: Lead

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:	1.5E+00	ug/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	1.5E-02	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	1.5E-02	pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAYDrinking Water

Parameter	Value	Unit
MCL/MCLG:	1.5E-02	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:		mg/L

Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	3.2E+00	ug/L
Salt AWQC:	3.2E+00	ug/L
Fresh AALAC:	3.2E+00	ug/L
Salt AALAC:	3.2E+00	ug/L
CHRONIC		
Fresh AWQC:	3.2E+00	ug/L
Salt AWQC:	3.2E+00	ug/L
Fresh AALAC:	3.2E+00	ug/L
Salt AALAC:	3.2E+00	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:		mg/kg

SUPERFUND CHEMICAL DATA MATRIX



View Page Two

CAS #: 007439-97-6

Chemical Name: Mercury

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	3.0E-04	mg/kg/day	IRIS
Inhal RfD:	8.6E-05	mg/kg/day	IRIS
Oral Slope:		(mg/kg/day) ⁻¹ *	
Oral Wt-of-Evid:			
Inhal Slope:		(mg/kg/day) ⁻¹ *	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10:		mg/kg/day	
Inhal ED10 Wgt:			
Oral LD50:		mg/kg	
Dermal LD50:		mg/kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	

*For radionuclides, the Unit is (pCi)⁻¹

* For radionuclide weights of evidence, the source is NA

Fresh AWQC:	2.4E+00	ug/L	WATCHIT
Salt AWQC:	2.1E+00	ug/L	WATCHIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	

TOXICITY (cont.)

Parameter	Value	Unit	Source
CHRONIC			
Fresh AWQC:	0.0E+00	ug/L	WATCHIT
Salt AWQC:	2.5E-02	ug/L	WATCHIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	
Fresh Ecol LC50:	4.8E+00	ug/L	AQUIRE
Salt Ecol LC50:	1.0E+01	ug/L	AQUIRE

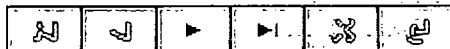
PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Half-lives			
Hydrolysis:		days	
Volatility:	1.2E+02	days	THOMAS
Photolysis:		days	
Biodeg:		days	
Radio:		days	

RIVER - Half-lives

Hydrolysis:		days	
Volatility:	1.3E+00	days	THOMAS
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:			

PAGE TWO: SUPERFUND CHEMICAL DATA MATRIX



CAS #: 007439-97-6

Chemical Name: Mercury

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:	2.0E-03	Torr	CHEMFATE
Henry's Law:	1.1E-02	atm-m3/mol	LIVECHEM
Water Solub:		mg/L	
Distrib Coef:	5.2E+01	mL/g	SSG_KD
Geo. Mean Sol:	7.7E-08		

BIOACCUMULATION

Parameter	Value	Unit	Source
-----------	-------	------	--------

FOOD CHAIN

Fresh BCF:	8.6E+04		VER_BCF
Salt BCF:	4.0E+04		VER_BCF

ENVIRONMENTAL

Fresh BCF:	8.6E+04		VER_BCF
Salt BCF:	4.0E+04		VER_BCF
Log Kow:			
Water Solub:		mg/L	

PHYSICAL CHARACTERISTICS

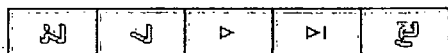
Parameter	Value
Metal Contain:	True
Organic:	False
Gas:	True
Particulate:	True
Radionuclide:	False
Rad. Element:	False
Molecular Weight:	2.006E+02
Density:	1.4E+01 g/mL @ 20 degrees C

OTHER DATA

Melting Point:	-38.87 degrees C
Boiling Point:	356.72 degrees C
Formula:	Hg

CLASS INFORMATION

Toxicity:	
GW Mob:	
Other:	



CAS #: 007439-97-6

Chemical Name: Mercury

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		ug/m3
Cancer Risk:		mg/m3
Non Cancer Risk:	3.1E-04	mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	2.3E+01	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:	2.0E-03	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-02	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:	2.0E-03	pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

Drinking Water

Parameter	Value	Unit
MCL/MCLG:	2.0E-03	mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	1.1E-02	mg/L

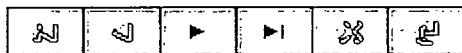
Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	1.2E-02	ug/L
Salt AWQC:	1.2E-02	ug/L
Fresh AALAC:	1.2E-02	ug/L
Salt AALAC:	1.2E-02	ug/L
CHRONIC		
Fresh AWQC:	1.2E-02	ug/L
Salt AWQC:	1.2E-02	ug/L
Fresh AALAC:	1.2E-02	ug/L
Salt AALAC:	1.2E-02	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:	1.0E+00	ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	4.1E-01	mg/kg

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007439-97-6

Chemical Name: Mercury

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.2000
Gas Migration:	17

GROUND WATER PATHWAY

Parameter	Value
Toxicity:	10000
Water Solub:	7.7E-08
Distrib:	5.2E+01

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY**Drinking Water**

Parameter	Value
Toxicity:	10000
Persistence	
River:	0.4000
Lake:	1.0000

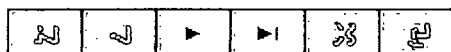
Human Food Chain

Parameter	Value
Toxicity:	10000
Persistence	
River:	0.4000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

Environmental

Parameter	Value
Fresh Tox:	10000
Salt Tox:	10000
Persistence	
River:	0.4000
Lake:	1.0000
Bioaccumulation	
Fresh:	50000.0
Salt:	50000.0

SUPERFUND CHEMICAL DATA MATRIX



View Page Two

CAS #: 007440-02-0

Chemical Name: Nickel

TOXICITY

Parameter	Value	Unit	Source
Oral RfD:	2.0E-02	mg/kg/day	IRIS
Inhal RfD:		mg/kg/day	
Oral Slope:		(mg/kg/day) ⁻¹ *	
Oral Wt-of-Evid:			
Inhal Slope:		(mg/kg/day) ⁻¹ *	
Inhal Wt-of-Evid:			
Oral ED10:		mg/kg/day	
Oral ED10 Wgt:			
Inhal ED10:	1.0E-01	mg/kg/day	SPHEM
Inhal ED10 Wgt:	A		SPHEM
Oral LD50:	5.0E+00	mg/kg	RTECS
Dermal LD50:		mg/Kg	
Gas Inhal LC50:		ppm	
Dust Inhal LC50:		mg/L	

*For radionuclides, the Unit is (pCi)⁻¹

* For radionuclide weights of evidence, the source is NATE

Fresh AWQC:	1.4E+03	ug/L	WATCRIT
Salt AWQC:	7.5E+01	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	

TOXICITY (cont.)

Parameter	Value	Unit	Source
CHRONIC			
Fresh AWQC:	1.6E+02	ug/L	WATCRIT
Salt AWQC:	8.3E+00	ug/L	WATCRIT
Fresh AALAC:		ug/L	
Salt AALAC:		ug/L	
Fresh Ecol LC50:	7.0E+02	ug/L	AQUIRE
Salt Ecol LC50:	5.1E+02	ug/L	AQUIRE

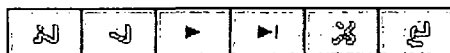
PERSISTENCE

Parameter	Value	Unit	Source
LAKE - Halflives			
Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	

RIVER - Halflives

Hydrolysis:		days	
Volatility:		days	
Photolysis:		days	
Biodeg:		days	
Radio:		days	
Log Kow:			

PAGE TWO: SUPERFUND CHEMICAL DATA MATRIX



CAS #: 007440-02-0

Chemical Name: Nickel

MOBILITY

Parameter	Value	Unit	Source
Vapor Press:		Torr	
Henry's Law:		atm-m3/mol	
Water Solub:		mg/L	
Distrib Coef:	6.5E+01	mL/g	SSG_KD
Geo. Mean Sol:	5.2E-01		

BIOACCUMULATION

Parameter	Value	Unit	Source
FOOD CHAIN			
Fresh BCF:	8.0E-01		VER_BCF
Salt BCF:	4.7E+02		VER_BCF

ENVIRONMENTAL

Fresh BCF:	1.1E+02		VER_BCF
Salt BCF:	4.7E+02		VER_BCF
Log Kow:			
Water Solub:		mg/L	

PHYSICAL CHARACTERISTICS

Parameter	Value
Metal Contain:	True
Organic:	False
Gas:	False
Particulate:	True
Radionuclide:	False
Rad. Element:	False
Molecular Weight:	5.869E+01
Density:	8.9E+00 g/mL @ degrees C

OTHER DATA

Melting Point:	1455 degrees C
Boiling Point:	2730 degrees C
Formula:	Ni

CLASS INFORMATION

Toxicity:	
GW Mob:	
Other:	

1996 ASSIGNED FACTOR VALUES



View Page Two

CAS #: 007440-02-0

Chemical Name: Nickel

AIR PATHWAY

Parameter	Value
Toxicity:	10000
Gas Mobility:	0.0000
Gas Migration:	0

GROUND WATER PATHWAY

Parameter	Value
Toxicity:	10000
Water Solub:	5.2E-01
Distrib:	6.5E+01

SOIL EXPOSURE PATHWAY

Parameter	Value
Toxicity:	10000

SURFACE WATER PATHWAY**Drinking Water**

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000

Human Food Chain

Parameter	Value
Toxicity:	10000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	0.5
Salt:	500.0

Environmental

Parameter	Value
Fresh Tox:	10
Salt Tox:	1000
Persistence	
River:	1.0000
Lake:	1.0000
Bioaccumulation	
Fresh:	500.0
Salt:	500.0



CAS #: 007440-02-0

Chemical Name: Nickel

BENCHMARKS

AIR PATHWAY

Parameter	Value	Unit
NAAQS/NESHAPS:		ug/m3
Cancer Risk:		mg/m3
Non Cancer Risk:		mg/m3

SOIL EXPOSURE PATHWAY

Parameter	Value	Unit
Cancer Risk:		mg/kg
Non Cancer Risk:	1.6E+03	mg/kg

GROUND WATER PATHWAY

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-01	mg/L

RADIONUCLIDE

Parameter	Value	Unit
MCL:		pCi/L
UMTRCA:		pCi/kg
CANCER RISK		
Air:		pCi/m3
DW:		pCi/L
FC:		pCi/kg
Soil Ing:		pCi/kg
Soil Gam:		pCi/kg

SURFACE WATER PATHWAY

Drinking Water

Parameter	Value	Unit
MCL/MCLG:		mg/L
Cancer Risk:		mg/L
Non Cancer Risk:	7.3E-01	mg/L

Environmental

Parameter	Value	Unit
ACUTE		
Fresh AWQC:	1.6E+02	ug/L
Salt AWQC:	1.6E+02	ug/L
Fresh AALAC:	1.6E+02	ug/L
Salt AALAC:	1.6E+02	ug/L
CHRONIC		
Fresh AWQC:	1.6E+02	ug/L
Salt AWQC:	1.6E+02	ug/L
Fresh AALAC:	1.6E+02	ug/L
Salt AALAC:	1.6E+02	ug/L

Human Food Chain

Parameter	Value	Unit
FDAAL:		ppm
Cancer Risk:		mg/kg
Non Cancer Risk:	2.7E+01	mg/kg

Site Inspection Sampling Plan
Chrome Wheel Concepts
4041 Koppers Court

Conley, DeKalb County, Georgia
EPA ID GAR000012658

May 2, 2002

Georgia Environmental Protection Division
Hazardous Waste Management Branch

Prepared By:

Reviewed By:

David Brownlee
Environmental Engineer

Jane Hendricks
Unit Coordinator

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1. INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Environmental Protection Division (EPD), Hazardous Waste Management Branch will conduct a site inspection (SI) at the Chrome Wheel Concepts facility (CWC) at 4041 Koppers Court in Conley, DeKalb County, Georgia. The objectives of the SI are to collect analytical data to verify and identify hazardous substances at the site and investigate whether human health and/or the environment has been impacted by the release of these substances in the environment. The scope of the investigation will include collecting media samples to investigate migration of hazardous substances from the site.

2. SITE DESCRIPTION

2.1 Location

The CWC site is located at 4041 Koppers Court in Conley, DeKalb County, Georgia. Previous reports identified the area of the facility as one acre (Ref. 1). The geographical coordinates are 84° 19' 25" west longitude and 33° 39' 45" north latitude as shown on the United States Geologic Survey (U.S.G.S.) Southeast Atlanta, Georgia 7.5 Minute Topographic Quadrangle Map (Figure 1).

CWC is bordered on the east by Koppers Court, which runs north and south. Interstate 675 forms the western boundary; an industrial facility, Iron Peddlers, forms the southern boundary; and a wooded lot forms the northern boundary. The site layout is depicted in Figure 2.

2.2 Site Description

Terek Green is the former operator of the Chrome Wheel Concepts facility. He was purchasing the property from George Tippen. Mr. Green defaulted in payments to Mr. Tippen and the property is in foreclosure. The facility performed decorative chrome plating on wheel accessories.

CWC used chromic acid baths for electroplating as well as nickel and copper baths for undercoating. In addition, alkaline and acid baths are used for preparing the surface and a cyanide bath was used for prepping heavy deposits of metals.

2.3 Operational History and Waste Characteristics

CWC ceased operations around the first quarter of 1999. However, on May 5, 1999, workers at a neighboring property noticed an unusual color in water running through a culvert at the rear of the property. The workers contacted the Georgia Emergency Response Program (ERP) after discovering the discolored water emanated from the CWC

facility. ERP in turn notified USEPA Region 4 Emergency Response and Removal Branch for assistance in preventing the immediate threat of continuing migration of the contaminants to the surface water bodies. The response activities included sampling and removal actions. Samples were collected of the waste found inside and outside of the building, of the soil, of the sediment, and of the surface water. The contaminants of concern are antimony, arsenic, chromium, copper, lead, mercury, nickel, cyanide and pH of the solutions.

2.4 Regional Aquifers

The site lies within the Piedmont/Blue Ridge Province. Groundwater in this area occurs mainly in the saturated regolith and in discontinuities in the underlying rocks, such as joints, fractures, foliation, and weathered zones. Because the regolith and bedrock comprise a single flow system, the uppermost aquifer is the only aquifer underlying the site. Groundwater is typically encountered between 10 and 600 feet below ground surface and is usually under water table conditions. (Ref. 1)

Municipal water is available to the majority of the Conley area residents and is provided by surface water. Private residential wells may supply some older homes that have chosen not to connect to municipal water. The nearest private well is over a half mile from the site. (Ref. 1)

3. COLLECTION OF NON-SAMPLING DATA

Non-sampling data collection will include verifying environmental/site information as well as obtaining new information. A site visit, conducted on May 2, 2002, verified current site conditions. (Ref. 2) Additional data will be gathered as necessary.

4. SAMPLING ACTIVITIES

The objectives of the SI are to collect analytical data to verify and identify hazardous substances at the site and investigate whether human health and/or the environment has been impacted by the release of these substances in the environment. The proposed sampling plan calls for soil, sediment, and surface water sampling.

Due to the fact that a specific release was identified with a list of chemicals of concern, the following constituents will be analyzed: antimony, arsenic, chromium, copper, lead, mercury, nickel, cyanide and pH. The pH level for soil and sediment samples will be measured at the EPD Laboratory. Proposed sample locations are shown on Figure 3.

4.1 Source Sampling

Source sampling will be conducted through soil/sediment sampling activities in and around the suspected areas of contamination at the site.

4.2 Groundwater Sampling

A pre-evaluation of the groundwater pathway was conducted to establish the sampling plan. Using worst case assumptions (i.e., an observed release) and the target data contained in the Preliminary Assessment, the groundwater pathway will be of minimal concern based on the absence of primary targets (actual contamination targets) and secondary targets over a half mile from the site. In addition, the fact that the release was a singular event with the source removed before reaching groundwater, it is unlikely that a groundwater release even occurred during the spill.

4.3 Surface Water Sampling

Based on the previous analytical data contained in the Preliminary Assessment and nearby wetlands, the surface water pathway is a major concern. Five samples are proposed along the surrounding ditches and outfall areas. Field conditions (presence of water) may alter the number and/or locations of samples taken. A brief description of each location is provided in Table 1 below.

Table 1
Surface Water Sampling Locations

<i>Sample Number</i>	<i>Description of Location</i>
SW-1	Background sample upgradient from the Chrome Wheel Concept facility parallel to I-675.
SW-2	Ditch downgradient from CWC at junction before surface water runs under I-675.
SW-3	Ditch at other side of underground drainage conveyance on western side of I-675.
SW-4	Ditch on the south side of Koppers Road and west of I-675 farther downgradient from SW-3.
SW-5	Ditch approximately 100 feet west from SW-4 and parallel to Koppers Road.
SW-Dup	A to be determined duplicate of one of the above samples.

4.4 Soil/Sediment Sampling

Several soil/sediment samples are proposed at the same locations proposed for surface water. Field conditions may alter the number and/or locations of samples taken. A background soil/sediment sample is proposed for this site. The background sample will be collected from a drainage ditch upgradient of the site. A brief description of each location is provided in following table.

Table 2
Soil/Sediment Sampling Locations

<i>Sample Number</i>	<i>Description of Location</i>
SD-1	Background sample upgradient from the Chrome Wheel Concept facility parallel to I-675.
SD-2	Ditch downgradient from CWC at junction before surface water runs under I-675.
SD-3	Ditch at other side of underground drainage conveyance on western side of I-675
SD-4	Ditch on the south side of Koppers Road and west of I-675 farther downgradient from SD-3.
SD-5	Ditch approximately 100 feet west from SW-4 and parallel to Koppers Road.
SD-Dup	A to be determined duplicate of one of the above samples.

4.5 Quality Assurance/Quality Control Procedures (QA/QC)

Unless disposable equipment is used, all sampling equipment will be decontaminated between sample locations. New disposable latex gloves will be worn for each sampling location. All sample collection, preservation, and chain of custody procedures utilized during sampling activities will be in accordance with the standard operation guidelines specified in the U.S. EPA Environmental Compliance Branch Region IV EISOPQAM Manual (Ref. 3). One duplicate is planned for each medium. A rinsate sample will be collected if a rinsate is generated. All samples will be stored in coolers on ice until they reach the laboratory. The project manager will maintain chain of custody until samples are delivered to the GA EPD Laboratory located in Atlanta, Georgia.

4.6 Field Activities

The project manager and assigned team members that will make up the sampling team (1-3 individuals) are tentatively scheduled to travel to the site the week of May 6, 2002. Fieldwork will begin with a site reconnaissance the morning of arrival to verify that planned sample locations are appropriate and accessible. During the reconnaissance, a drive-by survey will verify the locations of wetlands and the closest residents. Sampling will begin after the reconnaissance has verified adequacy of sampling plan locations and necessary modifications have been made. Proposed sample locations are shown on Figure 3. Sampling plans may be modified in the field if conditions dictate. Appropriate sample containers, per U.S. EPA guidance, will be utilized. After collecting all samples, they will be prepared and packaged for proper preservation until delivery to the EPD Laboratory.

The Georgia EPD Laboratory will provide containers with appropriate preservatives for the sampling trip. Coolers, zip-loc sampling bags, trash bags, disposable gloves, paper towels, labels, and a permanent pen will be secured from HSRP office. Sterile stainless steel spoons and scoopers will be picked up from the Hazardous Waste Management Branch (HWMB).

5. INVESTIGATION-DERIVED WASTES PLAN

Investigation-derived wastes include personal protective equipment, disposable sampling equipment, and soil/sediment not collected as a sample. All disposable personal protective and sampling equipment will be double-bagged and taken to the EPD Laboratory prior to disposal. Sediments and surface water, not collected as samples, will be returned to the surface water body. All wastes will be disposed of in accordance with applicable state and federal regulations.

6. PROJECT MANAGEMENT

The project manager for the SI, David Brownlee, will schedule field activities and personnel requirements, verify site access, and direct all activities associated with the investigation. The project manager also will document and manage all collected samples.

6.1 Field Equipment/Health and Safety

Ambient air safety monitoring equipment will not be necessary. Environmental media sampling activities will be conducted in level D personal protection equipment including disposable gloves, work boots, and regular cotton work clothes. The Site Health and Safety Plan is included as Appendix B. Field personnel will be briefed on the health and safety issues.

6.2 Projected Schedule

The SI fieldwork will begin early May 2002. Non-sampling data collection is pending. When the fieldwork and data collection is completed, preparation of the draft SI report will begin. Analytical results will be validated by the end of June 2002. The final SI report and HRS score will be completed by the end of July 2002.

REFERENCES

1. Georgia Environmental Protection Division, *Preliminary Assessment Report*, Chrome Wheel Concepts, Conley, DeKalb County, Georgia, EPA ID GAR000012658, September 27, 2001.
2. Georgia Environmental Protection Division, Pre-Sampling Site Visit, Conley, DeKalb County, Georgia, May 2, 2002.
3. U.S. Environmental Protection Agency, Region IV, Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM), November 2001.

HAZARDOUS WASTE MANAGEMENT BRANCH

SITE SAFETY AND WORK PLAN

SITE DESCRIPTION

DATE: May 9, 2002

LOCATION: Chrome Wheels Concept
4041 Koppers Court
Conley, DeKalb County, Georgia

HAZARDS: Electro-plating waste

AREA AFFECTED: Drainage ditch area surrounding the Chrome Wheel Concepts facility and the downgradient surface water pathway.

ADDITIONAL INFORMATION:

CWC electroplated chrome and other metals onto wheel accessories. Besides heavy metals, the other two constituents of concern are cyanide and pH.

ENTRY OBJECTIVES:

(Actions, tasks to be accomplished, etc.)

Collection of sediment and surface water samples for the Site Investigation (SI).

ONSITE ORGANIZATION/COORDINATION

Team Leader David Brownlee

Field Team Members Justin Butler (tentative)
Justine Harrison (tentative)

ONSITE CONTROL

David Brownlee has been designated to coordinate access control and security on site.

HAZARD EVALUATION

Hazards known or suspected to be on site. The primary hazards of each are identified.

<u>Substances Involved</u>	<u>Concentrations</u>	<u>Primary Hazard (i.e., toxic, inhalation, etc)</u>
Acids	Unknown	Corrosive, possibly toxic by inhalation, reacts violently with water
Cyanide	Unknown	Toxic by inhalation, ingestion
Metals	Unknown	Toxic by ingestion or inhalation of dust

Additional hazards found onsite include: Uneven terrain.

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PERSONAL PROTECTIVE EQUIPMENT

Based on the evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

Level D personal protection equipment including steel-toe boots, disposable latex gloves, and regular cotton work clothes shall be worn during the site visit. Disposable latex gloves must be changed between sample locations.

SITE SAFETY AND HEALTH PLAN

Site Safety Officer

David Brownlee is the designated Site Safety Officer.

Emergency Medical Care

Grady Memorial Hospital is located within 7 miles of this location. A map of the route to this medical facility is available and attached to this plan.

First aid equipment if available onsite at the following locations:

<u>Equipment</u>	<u>Location</u>
(i.e. first-aid kit, emergency eye wash, shower)	
First-aid Kit	Vehicle

List of Emergency Phone Numbers: 911 shall be contacted for medical emergencies.

Personal Monitoring

The following personal monitoring will be in effect onsite:

Personal exposure sampling: Personal Exposure sampling will not be conducted.

Medical monitoring: No medical monitoring is to be performed during the site visit.

All site personnel have read the above plan and are familiar with its provision.

	Name	Signature
Site Safety Officer	_____	_____
Other Site Personnel	_____	_____
Other Site Personnel	_____	_____
Other Site Personnel	_____	_____

NOTES

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David Jones, Laboratory Director

Ray Terhune, Quality Assurance Manager

A.3.22 EPA Method 9045B - pH in Soil**A.3.22.1 Scope and Application**

This method is applicable to sediment samples. The pH of a sample is determined electrometrically using a glass electrode in conjunction with a reference electrode.

A.3.22.2 Calibration

The pH meter is calibrated daily with three standard buffers at pH 7.0, 4.0 and 10.0 which must read within +/- 0.10 pH units of its given value. An CCC is analyzed every 10 samples. The calibration verification standard must meet control criteria in order for bracketed data to be acceptable.

A.3.22.3 Calculation

The pH meter reads directly in pH units. pH is reported to the nearest 0.1 unit.

Table A.3.22.1 RLs for Method EPA 9045B

Parameter/Method	Analyte	Matrix (soil)	
		RL	Unit
EPA 9045B	Sediment pH	1	pH units

Table A.3.22.2 Acceptance Criteria for Method EPA 9045B

Method	Analyte	Accuracy Water (% R)	Precision Water (pH Units)
EPA 9045B	Sediment pH	NA	0.5

**Table A.3.22.3 Summary of Calibration and QC Procedures for Method
EPA 9045B**

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance criteria	Corrective Action	Flagging Criteria
EPA 9045B	Sediment pH	Initial calibration verification	Prior to every batch	pH value must be within +/- 10% of expected value	Correct problem then repeat initial calibration verification	

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 Ray Terhune, Quality Assurance Manager

**Table A.3.22.3 Summary of Calibration and QC Procedures for Method
 EPA 9045B**

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance criteria	Corrective Action	Flagging Criteria
EPA 9045B	Sediment pH	Initial demonstration: Demonstrate ability to generate acceptable accuracy and precision using four analysis of QC check sample	Once per analyst	QC Acceptance Criteria Table and Initial demonstration SOP	Recalculate results: locate and fix problem with system and then rerun demonstration for those analytes that did not meet criteria.	
		Sample duplicate	Once per batch	pH value must be within 0.5 of expected value	Evaluate out of control event, reanalyze data	
		Continuing Calibration Check (CCC)	After every 10 samples	Concentration within 0.1 pH unit of expected value	Correct problem and reanalyze all samples associated with out of control CCC.	

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A.3.10 EPA Method 335.4 - Total Cyanide by Semi-Automated Colorimetry

A.3.10.1 Scope and Application

This method is applicable to the determination of cyanide in drinking and surface waters, domestic and industrial wastes. The cyanide as hydrocyanic acid(HCN), is released from cyanide complexes by means of distillation. Cyanides are converted to cyanogen chloride by reactions with chloramine-T, which subsequently reacts with pyridine and barbituric acid to give a red-colored complex. The color is read at 570 nm. The method is modified to use the MIDI-VAP Model MCV-103 midi-cyanide distillation system and the Traacs 800 auto analyzer.

Water samples for cyanide analysis are collected in a half gallon plastic narrow mouth bottles. Samples are preserved with sufficient NaOH to raise the pH above 12. Sample bottles must be cooled to 4⁰C after sample collection. Samples must be distilled and analyzed within 14 days.

A.3.10.2 Calibration Verification

The Traacs 800 is calibrated daily. Seven standards are used to construct the calibration curve; 0 mg/L CN, 0.025 mg/L /CN, 0.050 mg/L CN, 0.10 mg/L CN, 0.20 mg/L CN, 0.30 mg/L CN, and 0.50 mg/L CN. An ICV and ICB are run daily to check the calibration curve. An alternate source standard, where available, is used to verify initial calibration of the measurement system. The ICV value must be within $\pm 10\%$ of true value. The ICB value must be < 0.025 mg/L. Minimum correlation coefficient is 0.995 using linear regression. When the acceptance criteria for the continuing calibration verification are exceeded high, i.e., high bias, and there are associated samples that are non-detects, then those non-detects may be reported. When the acceptance criteria for the continuing calibration verification are exceeded low, i.e., low bias, those sample results may be reported if they exceed a maximum regulatory limit/decision level. Otherwise, the samples affected by the unacceptable calibration verification shall be reanalyzed after a new calibration curve has been established, evaluated and accepted.

A.3.10.3 Calculation

A standard curve is prepared by plotting the absorbance value of standards versus the corresponding cyanide concentration. The concentration value of the sample is obtained directly from the standard curve.

Table A.3.10.1 RLs for Method EPA 335.4

Parameter/Method	Analyte	Matrix (aqueous)	
		RL	Unit
EPA 335.2	Total Cyanide	0.025	mg/L

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Table A.3.10.2 Acceptance Criteria for Method EPA 335.4

Method	Analyte	Accuracy Water (% R)	Precision Water (RPD)
EPA 335.2	Total Cyanide	85-115	30

**Table A.3.10.3 Summary of Calibration and QC Procedures for Method
EPA 335.4**

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance criteria	Corrective Action	Flagging Criteria
EPA 335.2	Total Cyanide	Seven point calibration curve	Initial calibration verification once per batch	Correlation coefficient \geq 0.995 linear regression	Correct problem then repeat initial calibration	
		Second source calibration verification	Once per batch	Cyanide concentration within $\pm 10\%$ of expected value	Correct problem then repeat initial calibration	
		Initial Demonstration: Demonstrate ability to generate acceptable accuracy and precision using four analysis of a QC check sample	Once per analyst	QC Acceptance Criteria Table and Initial Demonstration SOP	Recalculate results; locate and fix problem with system and then rerun demonstration for those analytes that did not meet criteria	
		Method Blank	One per batch	Total Cyanide value must be $<$ 0.025 mg/L	Correct problem then analyze method blank and all samples processed with the contaminated blank	If unable to re-analyze, flag with a "B"
		Laboratory Control Sample (LCS/LCSD)	One LCS/LCSD per analytical batch	QC Acceptance Criteria Table	Correct problem then reanalyze the LCS/LCSD and all samples in the affected batch	If unable to re-analyze, flag with a "J"
		MDL Study	Once per year	Detection limits established shall be $<$ the RL's in table	none	
		Matrix Spike (MS/MSD)	One MS/MSD per analytical batch	QC Acceptance Criteria Table	Evaluate out of control event, reanalyze or flag data	
		Continuing Calibration Check (CCC)	After every 10 samples	Concentration within $\pm 10\%$ of expected value	Correct problem then reanalyze all samples associated with out of control CCC.	
		Continuing Calibration Blank (CCB)	After every 10 samples	CN concentration must be < 0.025 mg/l	Correct problem then reanalyze all samples associated with out of control CCB.	

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A.3.21 EPA Method 9010B - Total Cyanide in Waste and Sediments

A.3.21.1 Scope and Application

This method is a reflux-distillation procedure used to extract soluble cyanide salts and many insoluble cyanide complexes from wastes and leachates. It is based on the decomposition of nearly all cyanides by a reflux distillation procedure using a strong acid and a magnesium catalyst. Cyanide, in the form of hydrocyanic acid (HCN) is purged from the sample and captured into an alkaline scrubber solution. Method 9010 may be used as a reflux-distillation procedure for both total cyanide and cyanide amenable to chlorination.

A.3.21.2 Calibration Verification

The Traacs 800 is calibrated daily. Seven standards are used to construct the calibration curve: 0.00 mg/L CN, 0.025 mg/L /CN, 0.050 mg/L CN, 0.10 mg/L CN, 0.20 mg/L CN, 0.30 mg/L CN, and 0.50 mg/L CN. An ICV and ICB are run daily to check the calibration curve. The ICV value must be within 10% of true value. The ICB value must be < 0.025 mg/L. An alternate source standard, where available, is used to verify initial calibration of the measurement system. Minimum correlation coefficient is 0.995 using linear regression.

A.3.21.3 Calculation

A standard curve is prepared by plotting the absorbance value of standards versus the corresponding cyanide concentration. The concentration of cyanide in the sample digestates is determined by plotting sample absorbance's against the standard curve. Calculation of final result is accomplished using the following equation:

$$\text{CN mg/kg} = \frac{(X)(Y)}{(\text{kg})}$$

X = CN concentration in NaOH trapping solution

Y = Volume (in liters) of the trapping solution

kg = weight (in kg) of the sample (wet weight)

%S = percent solids in sediment, as a decimal fraction

Table A.3.21.1 RLs for Method SW486 9010B

Parameter/Method	Analyte	Matrix (Waste)	
		RL	Unit
SW486 9010B	Total Cyanide in Waste and Sediments	6.25	mg/kg wet

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Table A.3.21.2 Acceptance Criteria for Method SW486 9010B

Method	Analyte	Accuracy Waste (%R)	Precision Waste (RPD)
SW486 9010B	Total Cyanide in Waste and Sediments	85-115	30

Table A.3.21.3 Summary of Calibration and QC Procedures for Method SW486 9010B

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance criteria	Corrective Action	Flagging Criteria
SW486 9010B	Total Cyanide in Waste and Sediments	Seven point calibration curve	Initial calibration verification once per batch	Correlation coefficient ≥ 0.995 linear regression	Correct problem then repeat initial calibration	
		Second source calibration verification	Once per batch	Cyanide concentration within 10% of expected value	Correct problem then repeat initial calibration	
		Initial Demonstration: Demonstrate ability to generate acceptable accuracy and precision using four analysis of a QC check sample	Once per analyst	QC Acceptance Criteria Table and Initial Demonstration SOP	Recalculate results: locate and fix problem with system and then rerun demonstration for those analytes that did not meet criteria	
		Method Blank	One per batch	Total Cyanide value must be $< RL$ in table	Correct problem then analyze method blank and all samples processed with the contaminated blank	If unable to re-analyze, flag with a "B"
		Laboratory Control Sample (LCS/LCSD) spiked with Ottawa sand or glass beads	One LCS/LCSD per analytical batch	QC Acceptance Criteria Table	Correct problem then reanalyze the LCS/LCSD and all samples in the affected batch	If unable to re-analyze, flag with a "J"
		Matrix Spike (MS/MSD)	One MS/MSD per analytical batch	QC Acceptance Criteria Table	Evaluate out of control event, reanalyze or flag data	
		Continuing Calibration Check (CCC)	After every 10 samples	Concentration within 10 % of expected value	Correct problem and reanalyze all samples associated with out of control CCC.	
		Continuing Calibration Blank (CCB)	After every 10 samples	CN concentration must be $< RL$ in table	Correct problem and reanalyze all samples associated with out of control CCB.	

A.2.7 EPA Method 6020 – Metals in Water by ICP/MS

A.2.7.1 Scope and Application

This method covers the determination of metals in drinking, surface, and saline waters, industrial wastes and soils by ICP mass spectroscopy. An aliquot of the sample is accurately measured and refluxed with Hydrochloric and Nitric acids to solubilize analytes. The sample is allowed to settle overnight prior to analysis. For direct analysis of drinking water samples, Nitric acid is added and the sample is allowed to sit overnight prior to analysis.

Water samples and liquid waste samples for metal analysis are collected in a 500 ml narrow mouth plastic (HDPE) bottle. Samples are preserved with sufficient HNO₃ to lower the pH below 2. One to two bottles are required for each sample. Mercury analysis must be performed within 28 days all other metals require analysis within 180 days.

A.2.7.2 ICP Calibration and Calculations

A.2.7.2.1 Calibration Curve

The ICP is calibrated daily. A multipoint calibration curve is used. The concentration of the calibration standards varies according to the analytical requirements of the project being worked on. However, all calibration curves contain a blank and the curve type is linear through zero. Minimum acceptable correlation coefficient is 0.995 using linear regression. An ICV and ICB are analyzed immediately after the calibration standards. The ICV value must be within +/-5% of true value. The ICB value must be less than the analyte's reporting limit. A CCC and a CCB are analyzed after every ten samples. The initial CCC value must be within +/- 5% of true value, subsequent CCC values must be within +/-10% of true value. All CCC values must be less than the analyte's reporting limit.

A.2.7.2.2 Calculation

A standard curve is obtained by plotting the absorbance of standards against analyte concentration. The sample concentrations are computed directly from the standard curve and are reported as either ug/L for aqueous samples or mg/Kg for solid or waste samples.

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Table A.2.7 RLs for Method 6020

Parameter/Method	Analyte	Matrix (Water)		Matrix (Soil)	
		RL	Unit	RL	Unit
Metals by Inductively Coupled Atomic Emission Plasma Mass Spectroscopy 6020	Antimony	5.0	ug/L	0.5	mg/Kg
	Arsenic	5.0	ug/L	0.5	mg/Kg
	Barium	1.0	ug/L	0.1	mg/Kg
	Beryllium	1.0	ug/L	0.1	mg/Kg
	Cadmium	1.0	ug/L	0.1	mg/Kg
	Chromium	5.0	ug/L	0.5	mg/Kg
	Cobalt	5.0	ug/L	0.5	mg/Kg
	Copper	5.0	ug/L	0.5	mg/Kg
	Lead	1.0	ug/L	0.1	mg/Kg
	Nickel	5.0	ug/L	0.5	mg/Kg
	Selenium	5.0	ug/L	0.5	mg/Kg
	Silver	5.0	ug/L	0.1	mg/Kg
	Thallium	1.0	ug/L	0.1	mg/Kg
	Vanadium	1.0	ug/L	0.1	mg/Kg
	Zinc	10.0	ug/L	1.0	mg/Kg

A.2.8 EPA Method 7470 - Mercury by cold vapor AA**A.2.8.1 Scope and Application**

This method covers the determination of Mercury in mobility extraction procedures, aqueous wastes and ground water by cold vapor atomic absorption spectroscopy. An aliquot of the sample is accurately measured and transferred to a clean 50 ml centrifuge tube. The sample is then digested in dilute Potassium Permanganate-Potassium Persulfate solutions and oxidized in a hot block. Mercury in the sample is then reduced by Stannous Chloride to elemental Mercury and analyzed by flow injection cold vapor atomic absorption.

Water samples and liquid waste samples for mercury analysis are collected in a 500 ml narrow mouth plastic (HDPE) bottle. Samples are preserved with sufficient HNO₃ to lower the pH below 2. One to two bottles are required for each sample. Mercury analysis must be performed within 28 days.

A.2.8.2 Calibration and Calculations**A.2.8.2.1 Calibration Curve**

The Mercury analyzer is calibrated daily. A multipoint calibration curve is used. The concentrations of the calibration standards are (in ug/L) for aqueous samples 0.0, 0.2, 0.5, 1.0, 2.0, 3.0, and 6.0. Minimum acceptable correlation coefficient is 0.995 using linear regression. An ICV and ICB are analyzed immediately after the calibration standards. The ICV value must be within +/- 10% of true value. The ICB value must be less than the analyte's reporting limit. A CCC and a CCB are analyzed after every ten samples. All CCC values must be within +/- 20% of true value. All CCB values must be less than the analyte's reporting limit.

A.2.8.2.2 Calculation

A standard curve is obtained by plotting the absorbance of standards against analyte concentration. The sample concentrations are computed directly from the standard curve and are reported as ug/L

Table A.2.8.1 RLs for Method 7470A

Parameter/Method	Analyte	Matrix Aqueous	
		RL	Unit
Mercury by Cold Vapor Atomic Absorption Spectrometry	Mercury	0.2	ug/l

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Table A.2.8.2 Acceptance Criteria for Method 7470A

Method	Analyte	Accuracy Aqueous (%R)	Precision Aqueous (RPD)
Mercury by Cold Vapor Atomic Absorption Spectrometry	Mercury	85-115	≤ 15

Table A.2.8.3 Summary of Calibration and QC Procedures for Method 7470A

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
7470A	Mercury	Analyst Initial Demonstration.	Once per analyst	Average of 4 LCS recoveries between 85-115%. Recovery of unknown sample within established QC limits	Recalculate results, correct problem, then rerun the initial demonstration for those analytes that did not meet criteria.	
		MDL study.	Once every 12 months.	All analyte MDLs must be < reporting limits.	Correct the problem.	
		Analysis of PE sample.	Once every 12 months	All analyte results acceptable per the auditing agency.	Correct the problem	
		Initial Calibration. Minimum of 4 standards.	Daily initial calibration prior to sample analysis.	Correlation coefficient ≥ 0.995	Correct the problem and recalibrate	
		MDL Check	Daily after calibration.	All analyte recoveries between 50-150%.	Correct the problem and recalibrate.	
		IDL Calculation	Daily after calibration.	All analyte IDLs < MDL.	Correct the problem, clean the torch, recalibrate.	
		Initial Calibration Verification (ICV)	Daily after calibration.	All analyte recoveries within 10% of true value.	Correct the problem and recalibrate.	
		Continuing Calibration Blank (CCB).	Daily after calibration, after every 10 samples, and at end of analysis sequence.	All analyte concentrations must be below the analyte's reporting limit.	Correct the problem, recalibrate, and reanalyze all samples since the last acceptable CCB.	
		Continuing Calibration Check (CCC).	Daily after calibration, after every 10 samples, and at end of analysis sequence.	All analyte recoveries between 80-120%	Correct the problem, recalibrate, and reanalyze all samples since the last acceptable CCC.	

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Table A.2.8.3 Summary of Calibration and QC Procedures for Method 7470A

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
7470A	Mercury	Laboratory Control Sample (LCS).	Once per batch.	All analyte recoveries between 85-115%.	Correct the problem, redigest, and reanalyze all samples in the batch.	If unable to re-analyze, flag with a "J"
		Laboratory Control Sample Duplicate (LCSD).	Once per batch.	Relative Standard Precision $\leq 15\%$	Correct the problem, redigest, and reanalyze all samples in the batch.	If unable to re-analyze, flag with a "J"
		Matrix Blank	Once per batch.	All analyte concentrations must be less than the reporting limit.	Correct the problem, redigest, and reanalyze all samples in the batch.	If unable to re-analyze, flag with a "B"
		Matrix Spike	Every 10 samples.	All analyte recoveries within established QC limits	All samples must be analyzed by method of standard additions.	
		Matrix Spike Duplicate.	Every 10 samples.	Relative Standard Precision $< 15\%$.	None.	

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A.2.9 EPA Method 7471 - Mercury by Cold Vapor AA Spectroscopy in Solids

A.2.9.1 Scope and Application

This method covers the determination of Mercury in soils, sediments, bottom deposits, and sludge-like materials by cold vapor atomic absorption spectroscopy. An aliquot of the sample is accurately measured and transferred to a 50 ml centrifuge tube. The sample is then digested in dilute Potassium Permanganate-aqua regia solutions and oxidized at 95°C. Mercury in the sample is then reduced by Stannous Chloride to elemental Mercury and analyzed by flow injection cold vapor atomic absorption.

Soil and sediment samples for metal analysis are collected in a 500 ml wide mouth plastic (HDPE) bottle. Sample bottles must be cooled to 4°C after sample collection. Samples must be analyzed within 180 days.

A.2.9.2 Calibration and Calculations

A.2.9.2.1 Calibration Curve

The Mercury analyzer is calibrated daily. A multipoint calibration curve is used. The concentrations of the calibration standards are (in mg/Kg): 0.0, 0.0002, 0.0005, 0.001, 0.002, 0.003, and 0.006. Minimum acceptable correlation coefficient is 0.995 using linear regression. An ICV and ICB are analyzed immediately after the calibration standards. The ICV value must be within 10% of the true value. The ICB value must be less than the analyte's reporting limit. An alternate source standard, where available, is used to verify initial calibration of the measurement system. A CCC and a CCB are analyzed after every ten samples. All CCC values must be within 20% of the true value. All CCB values must be less than the analyte's reporting limit.

A.2.9.2.2 Calculation

A standard curve is obtained by plotting the absorbance of standards against analyte concentration. The sample concentrations are computed by multiplying the sample concentration obtained from the calibration curve by the dilution factor and are reported as mg/Kg. The reporting limit for the diluted analyte is also multiplied by the dilution factor.

Table A.2.9.1 RLs for Method 7471A

Parameter/Method	Analyte	Matrix (solids)	
		RL	Unit
Mercury by Cold Vapor Atomic Absorption Spectrometry	Mercury	0.1	mg/Kg

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Table A.2.9.2 Acceptance Criteria for Method 7471A

Method	Analyte	Accuracy Solids (%R)	Precision Solids (RPD)
Mercury by Cold Vapor Atomic Absorption Spectrometry	Mercury	85-115%	15

Table A.2.9.3 Summary of Calibration and QC Procedures for Methods 7471A

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance criteria	Corrective Action	Flagging Criteria
7471A	Mercury	Analyst Initial Demonstration.	Once per analyst	Average of 4 LCS recoveries between 85-115%. Recovery of unknown sample within established QC limits	Recalculate results, correct problem, then rerun the initial demonstration for those analytes that did not meet criteria.	
		MDL study.	Once every 12 months.	All analyte MDLs must be < reporting limits.	Correct the problem.	
		Analysis of PE sample.	Once every 12 months	All analyte results acceptable per the auditing agency.	Correct the problem	
		Initial Calibration. Minimum of 4 standards.	Daily initial calibration prior to sample analysis.	Correlation coefficient ≥ 0.995	Correct the problem and recalibrate	
		MDL Check	Daily after calibration.	All analyte recoveries between 50-150%.	Correct the problem and recalibrate.	
		IDL Calculation	Daily after calibration.	All analyte IDLs < MDL.	Correct the problem, clean the torch, recalibrate.	
		Initial Calibration Verification (ICV)	Daily after calibration.	All analyte recoveries within 10% of true value.	Correct the problem and recalibrate.	
		Continuing Calibration Blank (CCB).	Daily after calibration, after every 10 samples, and at end of analysis sequence.	All analyte concentrations must be below the analyte's reporting limit.	Correct the problem, recalibrate, and reanalyze all samples since the last acceptable CCB.	
		Continuing Calibration Check (CCC).	Daily after calibration, after every 10 samples, and at end of analysis sequence.	All analyte recoveries between 80-120%.	Correct the problem, recalibrate, and reanalyze all samples since the last acceptable CCC.	
		Laboratory Control Sample (LCS).	Once per batch.	All analyte recoveries between 85-115%.	Correct the problem, redigest, and reanalyze all samples in the batch.	If unable to re-analyze, flag with a "J"
		Laboratory Control Sample Duplicate (LCSD).	Once per batch.	Relative Percent Difference $\leq 15\%$	Correct the problem, redigest, and reanalyze all samples in the batch.	If unable to re-analyze, flag with a "J"
		Matrix Blank	Once per batch.	All analyte concentrations must be less than the reporting limit.	Correct the problem, redigest, and reanalyze all samples in the batch.	If unable to re-analyze, flag with a "B"

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Ray Terhune, Quality Assurance Manager

Table A.2.9.3 Summary of Calibration and QC Procedures for Methods 7471A

Method	Applicable Parameter	QC Check	Minimum Frequency	Acceptance criteria	Corrective Action	Flagging Criteria
7471A	Mercury	Matrix Spike	Every 10 samples.	All analyte recoveries within established QC limits	All samples in the batch must be analyzed by the method of standard additions.	
		Matrix Spike Duplicate.	Every 10 samples.	Relative Percent Difference < 15%.	None.	

SITE INSPECTION WORKSHEETS

CERCLIS IDENTIFICATION NUMBER
GASFN0406949

SITE LOCATION			
SITE NAME: LEGAL, COMMON, OR DESCRIPTIVE NAME OF SITE Koppers Court Release (aka Chrome Wheel Concepts)			
STREET ADDRESS, ROUTE, OR SPECIFIC LOCATION IDENTIFIER 4041 Koppers Court			
CITY Conley	STATE GEORGIA	ZIP CODE	TELEPHONE N/A

OWNER/OPERATOR IDENTIFICATION					
OWNER George Tippen			OPERATOR Terek Green		
OWNER ADDRESS			OPERATOR ADDRESS 4041 Koppers Court		
CITY			CITY Conley		
STATE	ZIP CODE	TELEPHONE	STATE	ZIP CODE	TELEPHONE
Georgia			Georgia		N/A

SITE EVALUATION		
AGENCY/ORGANIZATION Georgia Environmental Protection Division		INVESTIGATOR David Brownlee
ADDRESS 205 Martin Luther King Jr. Dr., SE, Suite 1462 East Tower		CONTACT Deadre Embrey
CITY Atlanta		TELEPHONE 404/656-2833
STATE Georgia	ZIP CODE 30334	

GENERAL INFORMATION

Site description and Operational History: Provide a brief description of the site and its operational history. State the site name, owner, operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note whether these activities are documented or alleged. Identify all source types and prior spills, floods, or fires. Summarize highlights of the PA and other investigations. Cite references.

Location

Chrome Wheel Concepts is located at 4041 Koppers Court, within the city limits of Conley, Georgia. The geographic coordinates are 33°39'45"N latitude and 84°19'25"W longitude, as located on the U.S. Geological Survey 7.5 minute series topographic map quadrangle, Georgia.

Site Description, Operational History and Waste Characteristics

The site is owned by Mr. George Tippen and is approximately one acre in size. The former operator of the site was Mr. Terek Green. Chrome Wheel Concepts is no longer in business. The site is currently leased to another tenant that does not generate any hazardous waste.

Source Description: Include description of containment per pathway for ground water (see HRS Table 3-2), surface water (see HRS Table 4-2), and air (see HRS Tables 6-3 and 6-9).

Sources:

Electro-plating solutions containing heavy metals and cyanide that were deliberately discharged into the drainage ditch at the back of the facility.

Hazardous Waste Quantity (HWQ) Calculation: SI Tables 1 and 2 (See HRS Tables 2-5, 2-6, and 5-2.

Single Source:

Electro-plating solutions

Using the hazardous constituent quantity in Column 3 of SI Table 1 for single source sites, the data is incomplete. That results in a default HWQ value of 10 according to SI Table 2.

	HWQ=	10
--	------	----

SED-4

KOPPERS ROAD

HICKSON
INDUSTRIES

SW-3
SED-3

Probable
Point of
Entry (PPE)



SED-1

SOIL-1

KOPPERS COURT

CHROME
WHEEL
CONCEPTS

IRON
PEDDLERS

SED-2

LEGEND

CULVERT

DITCH

FENCE

WATER FLOW

UNDERGROUND
DITCH

UNDERGROUND
CULVERT

UNDERGROUND
WATER FLOW



NOT TO SCALE

KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA

FIGURE 2
SITE LOCATION MAP

w/ SAMPLE LOCATIONS

SI TABLE 1: HAZARDOUS WASTE QUANTITY (HWQ) SCORES FOR SINGLE SOURCE SITES AND FORMULAS FOR MULTIPLE SOURCE SITES

		Single Source Sites (assigned HWQ scores)	
(Column 1) TIER	(Column 2) Source Type	(Column 3) HWQ = 10	(Column 4) HWQ = 100
A Hazardous Constituent Quantity	N/A	HWQ = 1 if Hazardous Constituent Quantity data are complete HWQ = 10 if Hazardous Constituent Quantity data are not complete	>100 to 10,000 lbs
B Hazardous Wastestream Quantity	N/A	≤ 500,000 lbs	>500,000 to 50 million lbs
C Volume	Landfill	≤ 6.75 million ft ³ ≤ 250,000 yd ³	>6.75 million to 675 million ft ³ >250,000 to 25 million yd ³
	Surface impoundment	≤ 6,750 ft ³ ≤ 250 yd ³	>6,750 to 675,000 ft ³ >250 to 25,000 yd ³
	Drums	≤ 1,000 drums	>1,000 to 100,000 drums
	Tanks and non-drum containers	≤ 50,000 gallons	>50,000 to 5 million gallons
	Contaminated soil	≤ 6.75 million ft ³ ≤ 250,000 yd ³	>6.75 million to 675 million ft ³ >250,000 to 25 million yd ³
	Pile	≤ 6,750 ft ³ ≤ 250 yd ³	>6,750 to 675,000 ft ³ >250 to 25,000 yd ³
	Other	≤ 6,750 ft ³ ≤ 250 yd ³	>6,750 to 675,000 ft ³ >250 to 25,000 yd ³
D Area	Landfill	≤ 340,000 ft ² ≤ 7.8 acres	>340,000 to 34 million ft ² >7.8 to 780 acres
	Surface impoundment	≤ 1,300 ft ² ≤ 0.029 acres	>1,300 to 130,000 ft ² >0.029 to 2.9 acres
	Contaminated soil	≤ 3.4 million ft ² ≤ 78 acres	> 3.4 million to 340 million ft ² > 78 to 7,300 acres
	Pile	≤ 1,300 ft ² ≤ 0.029 acres	>1,300 to 130,000 ft ² >0.029 to 2.9 acres
	Land treatment	≤ 27,000 ft ² ≤ 0.62 acres	>27,000 to 2.7 million ft ² >0.62 to 62 acres

TABLE 1 (CONTINUED)

Single Source Sites (assigned HWQ scores)		Multiple Source Sites		
(Column 5)	(Column 6)	(Column 7) Divisors for Assigning Source WQ Values	(Column 2) Source Type	(Column 1) TIER
HWQ = 10,000	HWQ = 1,000,000			
>10,000 to 1 million lbs	> 1 million lbs	lbs + 1	N/A	A Hazardous Constituent Quantity
>50 million to 5 billion lbs	> 5 billion lbs	lbs + 5,000	N/A	B Hazardous Wastestream Quantity
>675 million to 67.5 billion ft ³ >25 million to 2.5 billion yd ³	> 67.5 billion ft ³ > 2.5 billion yd ³	ft ³ + 67,500 yd ³ + 2,500	Landfill	C Volume
>675,000 to 67.5 million ft ³ >25,000 to 2.5 million yd ³	> 67.5 million ft ³ > 2.5 million yd ³	ft ³ + 67.5 yd ³ + 2.5	Surface Impoundment	
>100,000 to 10 million drums	> 10 million drums	drums + 10	Drums	
>5 million to 500 million gallons	> 500 million gallons	gallons + 500	Tanks and non-drum containers	
>675 million to 67.5 billion ft ³ >25 million to 2.5 billion yd ³	> 67.5 billion ft ³ > 2.5 billion yd ³	ft ³ + 67,500 yd ³ + 2,500	Contaminated Soil	
>675,000 to 67.5 million ft ³ >25,000 to 2.5 million yd ³	> 67.5 million ft ³ > 2.5 million yd ³	ft ³ + 67.5 yd ³ + 2.5	Pile	
>675,000 to 67.5 million ft ³ >25,000 to 2.5 million yd ³	> 67.5 million ft ³ > 2.5 million yd ³	ft ³ + 67.5 yd ³ + 2.5	Other	
>34 million to 3.4 billion ft ² >780 to 78,000 acres	> 3.4 billion ft ² >78,000 acres	ft ² + 3,400 acres + 0.078	Landfill	D Area
>130,000 to 13 million ft ² >2.9 to 290 acres	> 13 million ft ² > 290 acres	ft ² + 13 acres + 0.00029	Surface Impoundment	
> 340 million to 34 billion ft ² > 7,800 to 780,000 acres	> 34 billion ft ² > 780,000 acres	ft ² + 34,000 acres + 0.78	Contaminated Soil	
> 130,000 to 13 million ft ² > 2.9 to 290 acres	> 13 million ft ² > 290 acres	ft ² + 13 acres + 0.00029	Pile	
>2.7 million to 270 million ft ² >62 to 6,200 acres	> 270 million ft ² > 6,200 acres	ft ² + 270 acres + 0.0062	Land Treatment	

HAZARDOUS WASTE QUANTITY (HWQ) CALCULATION

For each migration pathway, evaluate HWQ associated with sources that are available (i.e., incompletely contained) to migrate to that pathway. (Note: If *Actual Contamination Targets* exist for ground water, surface water, or air migration pathways, assign the calculated HWQ score or 100, whichever is greater, as the HWQ score for that pathway.) For each source, evaluate HWQ for one or more of the four tiers (SI Table 1; HRS Table 2-5) for which data exist: constituent quantity, wastestream quantity, source volume, and source area. Select the tier that gives the highest value as the source HWQ. Select the source volume HWQ rather than source area HWQ if data for both tiers are available.

Column 1 of SI Table 1 indicates the quantity tier. Column 2 lists source types for the four tiers. Columns 3, 4, 5, and 6 provide ranges of waste amount for sites with only one source, corresponding to HWQ scores at the tops of the columns. Column 7 provides formulas to obtain source waste quantity values at sites with multiple sources.

1. Identify each source type.
2. Examine all waste quantity data available for each source. Record constituent quantity and waste stream mass or volume. Record dimensions of each source.
3. Convert source measurements to appropriate units for each tier to be evaluated.
4. For each source, use the formulas in the last column of SI Table 1 to determine the waste quantity value for each tier that can be evaluated. Use the waste quantity value obtained from the highest tier as the quantity value for the source.
5. Sum the values assigned to each source to determine the total site waste quantity.
6. Assign HWQ score from SI Table 2 (HRS Table 2-6).

Note these exceptions to evaluate soil exposure pathway HWQ (see HRS Table 5-2):

- The divisor for the area (square feet) of a landfill is 34,000.
- The divisor for the area (square feet) of a pile is 34.
- Wet surface impoundments and tanks and non-drum containers are the only sources for which volume measurements are evaluated for the soil exposure pathway.

SI TABLE 2: HWQ SCORES FOR SITES

Site WQ Total	HWQ Score
0	0
1 ^a to 100	1 ^b
> 100 to 10,000	100
> 10,000 to 1 million	10,000
> 1 million	1,000,000

^a If the WQ total is between 0 and 1, round it to 1.

^b If the hazardous constituent quantity data are not complete, assign the score of 10.

SI TABLE 3: WASTE CHARACTERIZATION WORKSHEET

Site Name: Chrome Wheel Concepts

References: SCDM

Sources:

1. Electro-plating Metal Solutions 4. _____ 7. _____
 2. _____ 5. _____ 8. _____
 3. _____ 6. _____ 9. _____

SOURCE	HAZARDOUS SUBSTANCE	TOXICITY	GROUND WATER PATHWAY		SURFACE WATER PATHWAY										
					OVERLAND/FLOOD MIGRATION							GROUND WATER TO SURFACE WATER			
			GW Mobility (HRS Table 3-8)	Tox/ Mobility Value (HRS Table 3-9)	Per (HRS Tables 4-10 and 4-11)	Tox/ Per Value (HRS Table 4-12)	Bioac Pot. (HRS Table 4-15)	Tox/ pers/ Bioac Value (HRS Table 4-16)	Ecotox (HRS Table 4-19)	Ecotox/Pe rs (HRS Table 4-20)	Ecotox/Pe rs/ Bioac Value (HRS Table 4-21)	Tox/ Mob/ Pers Value (HRS Table 4-26)	Tox/ Mob/ Pers/ Bioac Value (HRS Table 4-28)	Ecotox/ Mob/ Pers Value (HRS Table 4-29)	Ecotox/ Mob/ Pers/ Bioac Value (HRS Table 4-30)
1	Antimony	10,000	0.01	100	1	1.00e+04	5	5.00e+04	100	100	5.00e+02	1.00e+02	5.00e+02	1.00e+00	5.00e+00
1	Arsenic	10,000	0.01	100	1	1.00e+04	500	5.00e+06	10	10	5.00e+04	1.00e+02	5.00e+04	1.00e-01	5.00e+01
1	Chromium	10,000	0.01	100	1	1.00e+04	5	5.00e+04	100	100	5.00e+02	1.00e+02	5.00e+02	1.00e+00	5.00e+00
1	Copper	N/a	0.01	N/a	1	N/a	50,000	N/a	100	100	5.00e+06	N/a	N/a	1.00e+00	5.00e+04
1	Cyanide	100	1	100	0.4	4.00e-01	0.5	5.00e+01	1,000	400	2.00e+02	4.00e+01	2.00e+01	4.00e+02	2.00e+02
1	Lead	10,000	0.01	100	1	1.00e+04	5,000	5.00e+07	1,000	1,000	5.00e+06	1.00e+02	5.00e+05	1.00e+01	5.00e+04
1	Mercury	10,000	0.01	100	0.4	1.00e+04	50,000	5.00e+08	10,000	4,000	2.00e+08	4.00e+01	2.00e+06	4.00e+01	2.00e+06
1	Nickel	10,000	0.01	100	1	1.00e+04	500	5.00e+06	10	10	5.00e+03	1.00e+02	5.00e+04	1.00e-01	5.00e+01

GROUNDWATER PATHWAY GROUNDWATER USE DESCRIPTION

Describe Ground Water Use within 4 Miles of the Site:

Describe generalized stratigraphy, aquifers, municipal and private wells.

DeKalb County is in the central uplands district of the Piedmont physiographic province (Reference 5). The underlying geology of the area is made up of metamorphic and igneous rocks. Covering most of the area is saprolite, a clayey residual deposit produced by the weathering of the rocks. Depending on the properties of the parent rock and the topography, the saprolite in this area can range from 0 to 200 feet.

Groundwater in the area occupies joints, fractures and other secondary openings in the bedrock and pore spaces of the overlying soil. Precipitation recharges the groundwater found in these underground openings. Generally groundwater tends to flow the way of the surface topography of the area. This area slopes to the north toward the drainage ditch (References 1 and 4). Groundwater in this area is typically encountered between 10 and 600 feet below ground surface, and with very few exceptions, is under water table conditions. Yields for wells tend to be relatively small due to the low permeability of the crystalline rocks and overlying regolith, which limits the rate of recharge. For this reason, groundwater in this area is second to surface water for municipal supply.

There are approximately 414 people within a four-mile radius of the site who rely on private wells for their drinking water. None of these people live within 1/2 mile of the site (Reference 6). The nearest resident on private drinking water well is located between 1/2 mile and 1 mile from the site. The population served by city water is not included in the target population for groundwater because the City of Conley has a surface water withdrawal permit to take water from the Chattahoochee River (Reference 3).

Show Calculations of Ground Water Drinking Water Populations for each Aquifer:

Provide apportionment calculations for blended supply systems.

County average number of persons per household: Reference

Data provided from the U.S. Census Bureau (Reference 6). All wells in the area are completed in the uppermost aquifer (regolith and fractured bedrock system).

Ground Water Usage	----- Distance from Site (miles) -----						Total
	0-0.25	0.25-0.50	0.50-1.0	1.0-2.0	2.0-3.0	3.0-4.0	
Total Population	63	181	573	7,664	21,776	39,483	69,740
Population on Private Wells	0	0	7	29	69	309	414
Population on Public Water	63	181	566	7,635	21,707	39,174	69,326

GROUND WATER PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to the aquifer, assign a score of 550. Record observed release substances on SI Table 4.	0		
2. POTENTIAL TO RELEASE: Depth to aquifer: <u>20</u> feet. If sampling data do not support a release to the aquifer, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Optionally, evaluate potential to release according to HRS Section 3.	500		4
LR =	500		
TARGETS			
Are any wells part of a blended system? Yes <u> </u> No <u>X</u> If yes, attach a page to show apportionment calculations.	0		4, 6
3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates that any target drinking water well for the aquifer has been exposed to a hazardous substance from the site, evaluate the factor score for the number of people served (SI Table 5). Level I: <u> </u> people x 10 = <u> </u> Level II: <u> </u> people x 1 = <u> </u> Total = <u> </u>			
4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water wells for the aquifer or overlying aquifers that are not exposed to a hazardous substance from the site; record the population for each distance category in SI Table 6a or 6b. Sum the population values and multiply by 0.1.	5.3		6
5. NEAREST WELL: Assign a score of 50 for any Level I Actual Contamination Targets for the aquifer or overlying aquifer. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Targets exist, assign the Nearest Well score from SI Table 6a or 6b. If no drinking water wells exist within 4 miles, assign 0.	9		6
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA for the aquifer, or if a ground water observed release has occurred within a WHPA, assign a score of 20; assign 5 if neither condition applies but a WHPA is within 4 miles; otherwise assign 0.	5		6
7. RESOURCES: Assign a score of 5 if one or more ground water resources applies; assign 0 if none applies. - Irrigation (5 acre minimum) of commercial food crops or commercial forage crops - Watering of commercial livestock - Ingredient in commercial food preparation - Supply for commercial aquaculture - Supply for a major or designated water recreation area, excluding drinking water use	0		
Sum of Targets T =	19.3		

SI TABLE 6 (From HRS TABLE 3-12): VALUES FOR POTENTIAL CONTAMINATION GROUND WATER TARGET POPULATIONS

SI Table 6a: Other Than Karst Aquifers

Distance from Site	Pop.	Nearest Well (choose highest)	Population Served by Wells within Distance Category												Pop. Value	Ref.
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1000	1001 to 3000	3001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,000 to 3,000,000		
0 to $\frac{1}{4}$ mile	0	20	4	17	53	164	522	1,633	5,214	16,325	52,137	163,246	521,360	1,632,455	0	
$> \frac{1}{4}$ to $\frac{1}{2}$ mile	0	18	2	11	33	102	324	1,013	3,233	10,122	32,325	101,213	323,243	1,012,122	0	
$> \frac{1}{2}$ to 1 mile	7	⑨	①	5	17	52	167	523	1,669	5,224	16,684	52,239	166,835	522,385	1	
> 1 to 2 miles	29	5	0.7	③	10	30	94	294	939	2,939	9,385	29,384	93,845	293,842	3	
> 2 to 3 miles	69	3	0.5	2	⑦	21	68	212	678	2,122	6,778	21,222	67,777	212,219	7	
> 3 to 4 miles	309	2	0.3	1	4	13	④②	131	417	1,306	4,171	13,060	41,709	130,596	42	
Nearest Well =		9													Sum =	
															53	

C-10

GROUND WATER PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS				Score	Data Type	Does Not Apply
8. If any Actual Contamination Targets exist for the aquifer or overlying aquifers, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; If no Actual Contamination Targets exist, assign the hazardous waste quantity score calculated for sources available to migrate to ground water.				10		
9. Assign the highest ground water toxicity/mobility value from SI Table 3 or 4.				100		
10. Multiply the ground water toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below: (from HRS Table 2-7)				6		
Product	WC Score	<i>product =</i>	<i>1.00e+03</i>			
0	0					
>0 to <10	1					
10 to <100	2					
100 to <1,000	3					
1,000 to < 10,000	6					
10,000 to < 1E + 05	10					
1E + 05 to < 1E + 06	18					
1E + 06 to < 1E + 07	32					
1E + 07 to < 1E + 08	56					
1E + 08 or greater	100					
WC =				6		

Multiply LR by T and by WC. Divide the product by 82,500 to obtain the ground water pathway score for each aquifer. Select the highest aquifer score. If the pathway score is greater than 100, assign 100

GROUND WATER PATHWAY SCORE: (LR X T X WC)/82,500

0.70

(Maximum of 100)

SED-4

KOPPERS ROAD

HICKSON
INDUSTRIES

SW-3
SED-3

Probable
Point of
Entry (PPE)



SED-1

SOIL-1

KOPPERS COURT

CHROME
WHEEL
CONCEPTS

IRON
PEDDLERS

SED-2

LEGEND

CULVERT

DITCH

FENCE

WATER FLOW

UNDERGROUND
DITCH

UNDERGROUND
CULVERT

UNDERGROUND
WATER FLOW

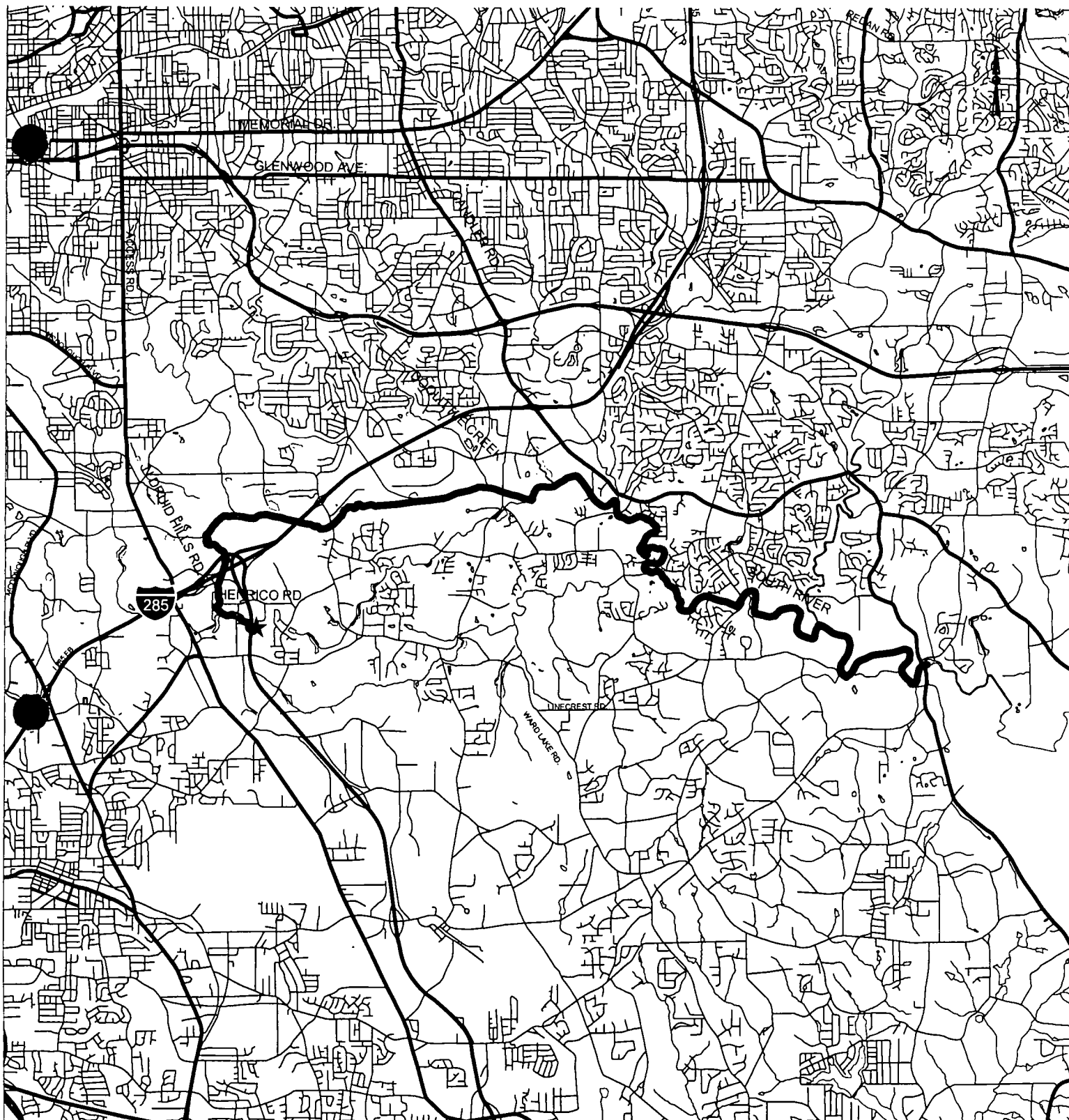


NOT TO SCALE

KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA

FIGURE 2
SITE LOCATION MAP

w/ SAMPLE LOCATIONS



-  Roads
-  State and US Highways
-  Interstate Highways
-  Rivers/Streams
-  Lake/Pond
-  Swamp/Marsh
-  15 Mile Downstream Pathway

Chrome Wheels Site
15 Mile Downstream Pathway
4041 Koppers Ct.
Atlanta , Dekalb County

Scale: 1 inch = 1 mile
33 39' 45" 84 19' 25"

Surface Water Intakes from EPD GSB DR96-27(1996);
 Roads, Rivers, Wetlands from Georgia DOT (1993);

SURFACE WATER PATHWAY

LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET

LIKELIHOOD OF RELEASE-OVERLAND/FLOOD MIGRATION

Data
Type Refs

1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.		550		3.4
2. POTENTIAL TO RELEASE: Distance to surface water: __ (feet) If sampling data do not support a release to surface water in the watershed, use the table below to assign a score from the table below based on distance to surface water and flood frequency.				
Distance to surface water <2500 feet	500			
Distance to surface water >2500 feet, and:				
Site in annual or 10-yr floodplain	500			
Site in 100-yr floodplain	400			
Site in 500-yr floodplain	300			
Site outside 500-yr floodplain	100			
Optionally, evaluate surface water potential to release according to HRS Section 4.1.2.1.2				

LR = **550**

LIKELIHOOD OF RELEASE GROUNDWATER TO SURFACE WATER MIGRATION

Data
Type Refs

1. OBSERVED RELEASE: If sampling data or direct observation support a release to surface water in the watershed, assign a score of 550. Record observed release substances on SI Table 7.				
NOTE: Evaluate ground water to surface water migration only for a surface water body that meets all of the following conditions:				
1) A portion of the surface water is within 1 mile of site sources having a containment factor greater than 0.				
2) No aquifer discontinuity is established between the source and the above portion of the surface water body.				
3) The top of the uppermost aquifer is at or above the bottom of the surface water.				
Elevation of top of uppermost aquifer	<u>890ft</u>			
Elevation of bottom of surface water body	<u>910ft</u>			

LR = **0**

SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT WORKSHEET (CONTINUED)

DRINKING WATER THREAT TARGETS

Score Data Type Refs

Record the water body type, flow, and number of people served by each drinking water intake within the target distance limit in the watershed. **If there is no drinking water intake within the target distance limit, assign 0 to factors 3, 4, and 5.**

Intake Name	Water Body Type	Flow	People Served

Are any intakes part of a blended system? Yes ☐ No ☐
If yes, attach a page to show apportionment calculations.

3. ACTUAL CONTAMINATION TARGETS: If analytical evidence indicates a drinking water intake has been exposed to a hazardous substance from the site, list the intake name and evaluate the factor score for the drinking water population (SI Table 8).

Level I: _____ People x 10 = _____

Level II: _____ People x 1 = _____

Total =

4. POTENTIAL CONTAMINATION TARGETS: Determine the number of people served by drinking water intakes for the watershed that have not been exposed to a hazardous substance from the site.
Assign the population values from SI Table 9. Sum the values and multiply by 0.1.

5. NEAREST INTAKE: Assign a score of 50 for any Level I Actual Contamination Drinking Water Targets for the watershed. Assign a score of 45 if there are Level II targets for the watershed, but no Level I targets. If no Actual Contamination Drinking Water Targets exist, assign a score for the intake nearest the PPE from SI Table 9. If no drinking water intakes exist, assign 0.

6. RESOURCES: Assign a score of 5 if one or more surface water resource applies; assign 0 if none applies.

- X Irrigation (5 acre minimum) of commercial food crops or commercial forage crops
- X Watering of commercial livestock
- X Ingredient in commercial food preparation
- X Major or designated water recreation area, excluding drinking water use

SUM OF TARGETS T=

5

SURFACE WATER PATHWAY (continued) HUMAN FOOD CHAIN THREAT WORKSHEET

HUMAN FOOD CHAIN THREAT TARGETS

Score Data Type Refs

Record the water body type and flow for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a score of 0 at the bottom of this page.

Fishery Name: unnamed Water Body: South River Flow: >100 cfs

Species Unknown Production _____ lbs/yr
Species _____ Production _____ lbs/yr

Fishery Name: Water Body: Flow: cfs

Species _____ Production _____ lbs/yr
Species _____ Production _____ lbs/yr

Fishery Name: Water Body: Flow: cfs

Species _____ Production _____ lbs/yr
Species _____ Production _____ lbs/yr

FOOD CHAIN INDIVIDUAL

7. ACTUAL CONTAMINATION FISHERIES:

If analytical evidence indicates that a fishery has been exposed to a hazardous substance with a bioaccumulation factor greater than or equal to 500 (SI Table 10), assign a score of 50 if there is a Level I fishery. Assign 45 if there is a Level II fishery, but no Level I fishery.

8. POTENTIAL CONTAMINATION FISHERIES:

If there is a release of a substance with a bioaccumulation factor greater than or equal to 500 to a watershed containing fisheries within the target distance limit, but there are no Level I or Level II fisheries, assign a score of 20.

If there is no observed release to the watershed, assign a value for potential contamination fisheries from the table below using the lowest flow at all fisheries within the target distance limit:

Lowest Flow	FCI Value
<10 cfs	20
10 to 100 cfs	2
>100 cfs, coastal tidal waters, oceans, or Great Lakes	0
3-mile mixing zone in quiet flowing river	10

FCI Value =

SUM OF TARGETS T=

20

3, SI Table 3

SURFACE WATER PATHWAY (continued) ENVIRONMENTAL THREAT WORKSHEET

When measuring length of wetlands that are located on both sides of a surface water body, sum both frontage lengths. For a sensitive environment that is more than one type, assign a value for each type.

ENVIRONMENTAL THREAT TARGETS

Score Data Type Refs

Record the water body type and flow for each surface water sensitive environment within the target distance (see SI Table 12). If there is no sensitive environment within the target distance limit, assign a score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
Unnamed Creek	Wetlands	<10 cfs
South River	Wetlands	>1,000 cfs
		cfs
		cfs

9. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: If sampling data or direct observation indicate any sensitive environment has been exposed to a hazardous substance from the site, record this information on SI Table 11, and assign a factor value for the environment (SI Tables 13 and 14).

Environment Name	Environment Type and Value (SI Tables 13 & 14)	Multiplier (10 for Level I, 1 for Level II)	Product

10. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS:

10.05

3, 4

Flow	Dilution Weight (SI Table 12)	Environment Type and Value (SI Tables 13 & 14)	Pot. Cont.	Product
Unnamed Creek <10 cfs	1	100	0.1 =	10.0
South River >1,000 cfs	0.001	500	0.1 =	0.05
cfs	X	X	0.1 =	
cfs	X	X	0.1 =	

Sum =

T = 10.05

**SI TABLE 12 (HRS Table 4-13):
SURFACE WATER DILUTION WEIGHTS**

Type of Surface Water Body		Assigned Dilution Weight
Descriptor	Flow Characteristics	
Minimal stream	< 10 cfs	1
Small to moderate stream	10 to 100 cfs	0.1
Moderate to large stream	> 100 to 1,000 cfs	0.01
Large stream to river	> 1,000 to 10,000 cfs	0.001
Large river	> 10,000 to 100,000 cfs	0.0001
Very large river	> 100,000 cfs	0.00001
Coastal tidal waters	Flow not applicable; depth not applicable	0.001
Shallow ocean zone or Great Lake	Flow not applicable; depth less than 20 feet	0.001
Moderate depth ocean zone or Great Lake	Flow not applicable; depth 20 to 200 feet	0.0001
Deep ocean zone or Great Lake	Flow not applicable; depth greater than 200 feet	0.000005
3-mile mixing zone in quiet flowing river	10 cfs or greater	0.5

C-30

**SI TABLE 13 (HRS TABLE 4-23):
SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES**

SENSITIVE ENVIRONMENT	ASSIGNED VALUE
Critical habitat for Federal designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federal designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Coastal Barrier (undeveloped) Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species within river reaches or areas in lakes or coastal tidal waters in which the fish spend extended periods of time Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection of maintenance of aquatic life under the Clean Water Act	5
Wetlands See SI Table 14 (Surface Water Pathway) or SI Table 23 (Air Pathway)	

**SI TABLE 14 (HRS TABLE 4-24): SURFACE WATER
WETLANDS FRONTAGE VALUES**

Total Length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SURFACE WATER PATHWAY (concluded) WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS

Score

11. If an Actual Contamination Target (drinking water, human food chain, or environmental threat) exists for the watershed, assign the calculated hazardous waste quantity score, or a score of 100, whichever is greater.				100
12. Assign the highest value from SI Table 7 (observed release) or SI Table 3 (no observed release) for the hazardous substance waste characterization factors below. Multiply each by the surface water characteristics score for each threat.				
	Substance Value	HWQ	Product	WC Score (from Table)
Drinking Water Threat Toxicity/Persistence	10,000	10	1.00e+05	18 (100 Max)
Food Chain Threat Toxicity/Persistence Bioaccumulation	5,000,000	10	5.00e+07	56 (1000 Max)
Environmental Threat Ecotoxicity/Persistence/Ecobioac cumulation	5,000,000	10	5.00e+07	56 (1000 Max)
Product	WC Score			
0	0			
>0 to <10	1			
10 to <100	2			
100 to <1,000	3			
1,000 to <10,000	6			
10,000 to <1E + 05	10			
1E + 05 to <1E + 06	18			
1E + 06 to <1E + 07	32			
1E + 07 to <1E + 08	56			
1E + 08 to <1E + 09	100			
1E + 09 to <1E + 10	180			
1E + 10 to <1E + 11	320			
1E + 11 to <1E + 12	560			
1E + 12 or greater	1000			

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Targets (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score (LR x T x WC)/82,500
Drinking Water	550	5	18	0.60 (100 Max)
Human Food Chain	550	20	56	7.47 (100 Max)
Environmental	550	10.05	56	3.75 (60 Max)

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

11.82
(100 max)

SOIL EXPOSURE PATHWAY WORKSHEET RESIDENT POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Refs
1. OBSERVED CONTAMINATION: If evidence indicates presence of observed contamination (depth of 2 feet or less), assign a score of 550; otherwise, assign a 0. Note that a likelihood of exposure score of 0 results in a soil exposure pathway score of 0.	550		4
LE =	550		

TARGETS

<p>2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care on the property and within 200 feet of areas of observed contamination (HRS section 5.1.3).</p> <p>Level I: _____ people x 10 = _____</p> <p>Level II: _____ people x 1 = _____</p> <p style="text-align: right;">Sum = _____</p>	0		4										
<p>3. RESIDENT INDIVIDUAL: Assign a score of 50 if any Level I resident population exists. Assign a score of 45 if there are Level II targets but no Level I targets. If no resident population exists (i.e., no Level I or Level II targets), assign 0 (HRS Section 5.1.3).</p>	0		4										
<p>4. WORKERS: Assign a score from the table below for the total number of workers at the site and nearby facilities and within 200 ft. Of areas of observed contamination associated with the site.</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Number of Workers</th> <th style="padding: 5px;">Score</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="text-align: center; padding: 5px;">1 to 100</td> <td style="text-align: center; padding: 5px;">5</td> </tr> <tr> <td style="text-align: center; padding: 5px;">101 to 1,000</td> <td style="text-align: center; padding: 5px;">10</td> </tr> <tr> <td style="text-align: center; padding: 5px;">>1,000</td> <td style="text-align: center; padding: 5px;">15</td> </tr> </tbody> </table>	Number of Workers	Score	0	0	1 to 100	5	101 to 1,000	10	>1,000	15	10		4
Number of Workers	Score												
0	0												
1 to 100	5												
101 to 1,000	10												
>1,000	15												
<p>5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value for each terrestrial sensitive environment (SI Table 16) in an area of observed contamination.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Terrestrial Sensitive Environment Type</th> <th style="width: 20%;">Value</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr> <td style="text-align: right;">Sum =</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>	Terrestrial Sensitive Environment Type	Value							Sum =	0	0		4
Terrestrial Sensitive Environment Type	Value												
Sum =	0												
<p>6. RESOURCES: Assign a score of 5 if any one or more of the following resources is present on an area of observed contamination at the site: assign 0 if none applies.</p> <p>- Commercial agriculture, - Commercial silviculture, - Commercial livestock production or commercial livestock grazing</p>	0		4										
Total of Targets T=	10												

SOIL EXPOSURE PATHWAY WORKSHEET NEARBY POPULATION THREAT

LIKELIHOOD OF EXPOSURE	Score	Data Type	Ref.
7. Attractiveness/Accessibility (from SI Table 17 or HRS Table 5-6) Value <u>10</u>	5		4
Area of Contamination (from SI Table 18 or HRS Table 5-7) Value <u>5</u>			
Likelihood of Exposure (from SI Table 19 or HRS Table 5-8)			
LE =	5		

TARGETS	Score	Data Type	Ref.
8. Assign a score of 0 if Level I or Level II resident individual has been evaluated or if no individuals live within 1/4 mile travel distance of an area of observed contamination. Assign a score of 1 if nearby population is within 1/4 mile travel distance and no Level I or Level II resident population has been evaluated.	1		6
9. Determine the population within 1 mile travel distance that is not exposed to a hazardous substance from the site (i.e., properties that are not determined to be Level I or Level II); record the population for each distance category in SI Table 20 (HRS Table 5-10). Sum the population values and multiply by 0.1.	6.0		6
T =	7.0		

**SI TABLE 17 (HRS TABLE 5-6):
ATTRACTIVENESS/ACCESSIBILITY VALUES**

Area of Observed Contamination	Assigned Value
Designated recreational area	100
Regularly used for public recreation (for example, vacant lots in urban area)	75
Accessible and unique recreational area (for example, vacant lots in urban area)	75
Moderately accessible (may have some access improvements—for example, gravel road) with some public recreation use	50
Slightly accessible (for example, extremely rural area with no road improvement) with some public recreation use	25
Accessible with no public recreation use	10
Surrounded by maintained fence or combination of maintained fence and natural barriers	5
Physically inaccessible to public, with no evidence of public recreation use	0

SI TABLE 18 (HRS TABLE 5-7): AREA OF CONTAMINATION FACTOR VALUES

Total area of the areas of observed contamination (square feet)	Assigned Value
≤ to 5,000	5
> 5,000 to 125,000	20
> 125,000 to 250,000	40
> 250,000 to 375,000	60
> 375,000 to 500,000	80
> 500,000	100

C-40

AREA OF CONTAMINATION FACTOR VALUE	ATTRACTIVENESS/ACCESSIBILITY FACTOR VALUE						
	100	75	50	25	⑩	5	0
100	500	500	375	250	125	50	0
80	500	375	250	125	50	25	0
60	375	250	125	50	25	5	0
40	250	125	50	25	5	5	0
20	125	50	25	5	5	5	0
⑤	50	25	5	5	⑤	5	0

C-40

Travel Distance Category (miles)	Pop.	Number of people within the travel distance category												Pop. Value
		0	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,001	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	
Greater than 0 to $\frac{1}{4}$	63	0	0.1	0.4	1.0	4	13	41	130	408	1,303	4,081	13,034	1
Greater than $\frac{1}{4}$ to $\frac{1}{2}$	181	0	0.05	0.2	0.7	2	7	20	65	204	652	2,041	6,517	2
Greater than $\frac{1}{2}$ to 1	573	0	0.02	0.1	0.3	1	3	10	33	102	326	1,020	3,258	3
Reference(s) _____ Sum =														6

SOIL EXPOSURE PATHWAY WORKSHEET (concluded)

WASTE CHARACTERISTICS

10. Assign the hazardous waste quantity score calculated for soil exposure.	10
11. Assign the highest toxicity value from SI Table 15 or 3.	10,000
12. Multiply the toxicity and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:	18

Product	WC Score	<i>Product = 1.00e+05</i>	
0	0		
>0 to <10	1		
10 to <100	2		
100 to <1,000	3		
1,000 to < 10,000	6		
10,000 to < 1E + 05	10		
1E + 05 to < 1E + 06	18		
1E + 06 to < 1E + 07	32		
1E + 07 to < 1E + 08	56		
1E + 08 or greater	100		

WC =

RESIDENT POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 1;
Targets = Sum of Questions 2, 3, 4, 5, 6)

$$\frac{LE \times T \times WC}{82,500}$$

1.20

NEARBY POPULATION THREAT SCORE:

(Likelihood of Exposure, Question 7;
Targets = Sum of Questions 8,9)

$$\frac{LE \times T \times WC}{82,500}$$

0.008

$$5 \times 1.06 \times 18 / 82,500$$

SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat

1.21

(100 Max)

AIR PATHWAY WORKSHEET

LIKELIHOOD OF RELEASE

	Score	Data Type	Refs
1. OBSERVED RELEASE: If sampling data or direct observation support a release to air, assign a score of 550. Record observed release substances on SI Table 21.			
2. POTENTIAL TO RELEASE: If sampling data do not support a release to air, assign a score of 500. Optionally, evaluate air migration gaseous and particulate potential to release (HRS Section 6.1.2.).			
LR =	0		

TARGETS

<p>3. ACTUAL CONTAMINATION POPULATION: Determine the number of people within the target distance limit subject to exposure from a release of a hazardous substance to the air.</p> <p>a) Level I: _____ people x 10 = _____</p> <p>b) Level II: _____ people x 1 = _____</p> <p style="text-align: right;">Total = _____</p>																	
<p>4. POTENTIAL TARGET POPULATION: Determine the number of people within the target distance limit not subject to exposure from a release of a hazardous substance to the air, and assign the total population score from SI Table 22. Sum the values and multiply the sum by 0.1.</p>																	
<p>5. NEAREST INDIVIDUAL: Assign a score of 50 if there are any Level I targets. Assign a score of 45 if there are Level II targets but no Level I targets. If no Actual Contamination Population exists, assign the Nearest Individual score from SI Table 22.</p>																	
<p>6. ACTUAL CONTAMINATION SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (SI Table 13) and wetland acreage values (SI Table 23) for environments subject to exposure from the release of a hazardous substance to the air.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Sensitive Environment Type</td> <td style="width: 50%;">Value</td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr> <td>Wetland Acreage</td> <td>Value</td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	Sensitive Environment Type	Value							Wetland Acreage	Value							
Sensitive Environment Type	Value																
Wetland Acreage	Value																
<p>7. POTENTIAL CONTAMINATION SENSITIVE ENVIRONMENTS: Use SI Table 24 to evaluate sensitive environments not subject to exposure from a release.</p>																	
<p>8. RESOURCES: Assign a score of 5 if one or more air resources apply within 2 mile of a source; assign a 0 if none applies.</p> <p style="margin-left: 20px;">- Commercial agriculture, - Commercial silviculture, - Major or designated recreation area.</p>	0																
T =	0																

AIR PATHWAY (concluded)

9. If any Actual Contamination Targets exist for the air pathway, assign the calculated hazardous waste quantity score or a score of 100, whichever is greater; if there are no Actual Contamination Targets for the air pathway, assign the calculated HWQ score for sources available to air migration.		0																						
10. Assign the highest air toxicity/mobility value from SI Table 21 & 23.																								
11. Multiply the air pathway toxicity/mobility and hazardous waste quantity scores. Assign the Waste Characteristics score from the table below:																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Product</th> <th style="text-align: left; padding: 2px;">WC Score</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>>0 to <10</td><td>1</td></tr> <tr><td>10 to <10</td><td>2</td></tr> <tr><td>100 to <1,000</td><td>3</td></tr> <tr><td>1,000 to < 10,000</td><td>6</td></tr> <tr><td>10,000 to < 1E + 05</td><td>10</td></tr> <tr><td>1E + 05 to < 1E + 06</td><td>18</td></tr> <tr><td>1E + 06 to < 1E + 07</td><td>32</td></tr> <tr><td>1E + 07 to < 1E + 08</td><td>56</td></tr> <tr><td>1E + 08 or greater</td><td>100</td></tr> </tbody> </table>	Product	WC Score	0	0	>0 to <10	1	10 to <10	2	100 to <1,000	3	1,000 to < 10,000	6	10,000 to < 1E + 05	10	1E + 05 to < 1E + 06	18	1E + 06 to < 1E + 07	32	1E + 07 to < 1E + 08	56	1E + 08 or greater	100	<div style="display: flex; justify-content: space-between;"> Product = 0.00e+00 WC = </div> <div style="text-align: center; font-size: 24px; margin-top: 10px;">0</div>	
Product	WC Score																							
0	0																							
>0 to <10	1																							
10 to <10	2																							
100 to <1,000	3																							
1,000 to < 10,000	6																							
10,000 to < 1E + 05	10																							
1E + 05 to < 1E + 06	18																							
1E + 06 to < 1E + 07	32																							
1E + 07 to < 1E + 08	56																							
1E + 08 or greater	100																							

AIR PATHWAY SCORE:

$$\frac{LE \times T \times WC}{82,500}$$

0.0

(100 max)

SITE SCORE CALCULATION		S	S ²
GROUND WATER PATHWAY SCORE (S _{GW})		0.70	0.49
SURFACE WATER PATHWAY SCORE (S _{SW})		11.82	139.71
SOIL EXPOSURE (S _S)		1.21	1.46
AIR PATHWAY SCORE (S _A)		0.00	0.00
SITE SCORE $\sqrt{\frac{S_{GW}^2 + S_{SW}^2 + S_S^2 + S_A^2}{4}} =$			5.95

COMMENTS

The above site score indicates that this site should not be evaluated further under HRS. However, there are some points to note on the scoring:


1. The sediment data indicates residual metals contamination above background levels. This may be attributable to the release at Chrome Wheel Concepts and/or Hickson Industries that manufactures CCA. Additional sampling would be needed to determine the contribution from Hickson Industries.
2. The soil pathway was evaluated using the sediment data to justify a release scenario since the sediment is less than 2 feet in depth. The soil sample itself did not justify a release scenario.
3. Only arsenic, chromium, copper, and nickel values from SI Table 3 were used in scoring since they were the only constituents detected greater than 3 times background levels.

Koppers Court 8.10.01
2.10
2001

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV**

POLREP #9 and FINAL

DATE: March 26, 2001

FROM: Frank J. García 

TO: Myron D. Lair, ERRB
Dan Thorton, EPA HQ, ERD Regional Coordinator
EPA Region 4 Regional Response Center

I. GENERAL SITE INFORMATION

Site Name:	Koppers Court Release
Street Address:	4041 Koppers Court Conley, Dekalb County, Georgia
Site No:	A4N6
EPA ID No.:	GASFN0406949
Response Authority:	CERCLA
Delivery Order No.:	4009-F4-012
NPL Status:	Non-NPL
Incident Category:	Emergency Response
State Notification:	Georgia Environmental Protection Division
Status of the Action Memorandum:	May 12, 1999, \$200,000
Start Date:	May 5, 1999
Completion Date:	June 4, 1999

II. BACKGROUND:

- A. Type of facility or site: Chrome plating facility
- B. Site description:

On Wednesday, May 5, 1999, the GAEPD, requested the assistance of the EPA Emergency Response and Removal Branch to perform a site investigation at an abandoned chrome plating facility. After a careful investigation, it was determined that an unknown amount of what appeared to be chromic acid, was released along the back of the Chrome Wheel Concepts facility. The liquid traveled from the back of the facility to a drainage ditch. Vegetation and surface water along the path of the release was impacted. Additionally, a drainage ditch at a nearby company (Hickson Corporation) was contaminated. Analytical results have shown the presence of elevated levels of chrome in soil, sediment and water samples.



The back of the facility drained into a culvert running parallel to I-675, which is located directly behind the facility. The culvert flows south for approximately 100 yards, joins with another culvert flowing north, and turns under the expressway. The culvert emerges from under the expressway at the rear of the Hickson facility and flows north along the east side of Koppers Court, eventually discharging into the Yellow River.

Numerous drums, vats and containers were observed inside the facility. .

Sample results from sediment samples revealed a level of 4000 parts per million (ppm) for chrome. Typical removal action levels for chrome in this area should be less than 120 ppm. Chromic acid has been shown to be a human carcinogen.

III. RESPONSE INFORMATION:

A. Actions Taken:

On May 5, 6 and 8, START collected numerous samples consisting of soil, water, sediment and waste. The soil, water and sediment samples were collected from impacted areas along the back side of the facility. Soil samples were analyzed for TCLP, priority pollutant metals, total cyanide and pH. Some of the sediment samples were collected from the Hickson facility side and analyzed for the same constituents as mentioned before. Water samples were collected from the culvert and analyzed for priority pollutant metals, total cyanide and pH. Several waste samples were collected from a garden hose in the backyard of the Chrome Wheel Concepts facility. This hose appeared to have been utilized to transfer the chrome acid waste from the facility to the backyard and culvert. Several other waste samples were collected from containers inside the facility.

In order to perform the cleanup, International Technologies Inc. (IT) was contracted by the US EPA. Fisher Industries was contracted by Hickson Corp. to remove liquid from the culvert and creek located on the Hickson property.

On May 5, 1999, Fisher Industries removed several hundred gallons of liquid from the culvert along Hickson's property. On May 6, 1999, IT began pumping liquid from the Chrome Wheel Concepts side. The liquid collected by both Fisher and IT was placed into a poly storage tank until disposal arrangements could be made. The removal of the liquid was hampered by heavy rains that fell on May 5 and 6.

On May 6, 1999, IT began excavating contaminated soil from the back of the Chrome Wheel Concepts facility. Approximately 40 cubic yard of contaminated soil was excavated.

Once all of the contaminated soil and liquid were sampled and profiled, all of the waste was properly disposed.

B. Use of Innovative Technologies:

No innovative treatment alternatives were utilized.

C. Community Involvement:

The OSC interviewed the next door building tenants to gather as much information as possible about the site. However, none of the tenants had any information regarding the nature of the activities that occurred at the site.

D. Unusual Circumstances:

There were no unusual circumstances encountered during this removal action. However, the removal of the liquid from the culvert was hampered by heavy rain that fell on May 5th and 6th.

E. Future Considerations:

None.

F. Post Removal Site Control:

GAEPD agreed to address all of the waste contained inside the facility.

IV. CONTRACTOR INFORMATION AND ESTIMATED COST:

A. Contractor Information

CONTRACTOR	DO NUMBER	POP START	POP END	DO AMOUNT
International Technology Corp.	4009-F4-012	05/05/99	7/5/99	\$48,735.33
EPA				\$20,000.00
TOTAL				\$58,735.33

B. Estimated Cost

Extramural Costs:

Ceiling

ERRS \$130,000
START \$ 50,000

TOTAL, EXTRAMURAL COSTS..... \$180,000

Intramural Costs:

Direct Costs (Region, HQ, ERT)..... \$ 10,000
Intramural Indirect Costs..... \$ 10,000

TOTAL, INTRAMURAL COSTS..... \$ 20,000

TOTAL PROJECT CEILING/SITE COST..... \$200,000

The costs shown are based on information available at the time this report was prepared. These figures should not be used to support or dispute any legal action regarding this removal.

V. DISPOSITION OF WASTE:

A. Disposition of Waste

Bulk Groups	Description	Shipping Name	Disposal Location
1	107 tons	Non-Hazardous Soil	BFI/Hickory Ridge Landfill 3330 Moreland Ave. Conley, GA 30288
2	2547 gallons	Chromic Acid	USL City Environmental 1923 Frederick St. Detroit, MI 48211

VI. ROSTER OF AGENCIES/ ORGANIZATIONS ASSISTING IN REMOVAL:

Org/ Agency, Address	Primary Contact	Phone Number	Role, Activity
U.S.EPA, ERRB 61 Forsyth Street Atlanta, Georgia 30303	Francis Garcia	(404) 562-8763 (404) 562-8699 Fax	On-Scene Coordinator
START Team Tetra Tech EM Inc. 1750 Corporate Drive Suite 735 Norcross, GA 30093	Charles Berry	(770) 717-2338	Oversight Contractor
International Tech. Corp. 5445 Triangle Parkway 735 Norcross, GA 30092	Scott Lyle	(770) 729-3900	Response Manager
GADNR Atlanta Tradeport 4244 International Parkway Atlanta, GA 30354	John W. Hill	(404) 362-4917	Investigative Officer
GAEPD Emergency Response Team 7 MLK Drive, Suite 643 Atlanta, GA 30334	Scott Robertson	(404) 656-6905	Emergency Responder
Hickson Corporation 1955 Lake Park Drive Suite 250 Smyrna, GA 30080	William Baldwin	(770) 801-6600	Vice President Operations and Industry Relations
Fisher Industrial Service Inc. P.O. BOX 5410 Glencoe, AL 35905-0410	Stephen Cochran	(256) 492-8340	Regional Sales Manager

SITE:	
BREAK:	1.8
OTHER:	vol. 1

PRELIMINARY ASSESSMENT

CHROME WHEEL CONCEPTS

4041 KOPPERS COURT

CONLEY, DEKALB COUNTY, GEORGIA
EPA I.D. No. GAR000012658

PREPARED FOR U.S. EPA REGION IV

BY

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
HAZARDOUS WASTE MANAGEMENT BRANCH

September 27, 2001

Prepared by:

Terri Crosby
Environmental Engineer
Hazardous Waste Management Branch



10534512

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TABLES	1	Drinking Water Populations
	2	Protected Plants

APPENDIX A	Chrome Wheel Concepts Sampling and Analytical Data
APPENDIX B	Copy of References

PRELIMINARY ASSESSMENT

Chrome Wheel Concepts

Conley, Dekalb County, Georgia

1.0 INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the US Environmental Protection Agency (EPA) Region IV, Waste Management Division has authorized the Georgia Department of Natural Resources, Environmental Protection Division (EPD) to conduct a Preliminary Assessment (PA) at the Chrome Wheel Concepts in Conley, Dekalb county, Georgia. The purpose of the investigation was to collect information concerning conditions at the Chrome Wheel Concepts site sufficient to assess the immediate or potential threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other action. The scope of the investigation included review of available file information, a comprehensive target search, and a review of on-site and off-site reconnaissance field notes.

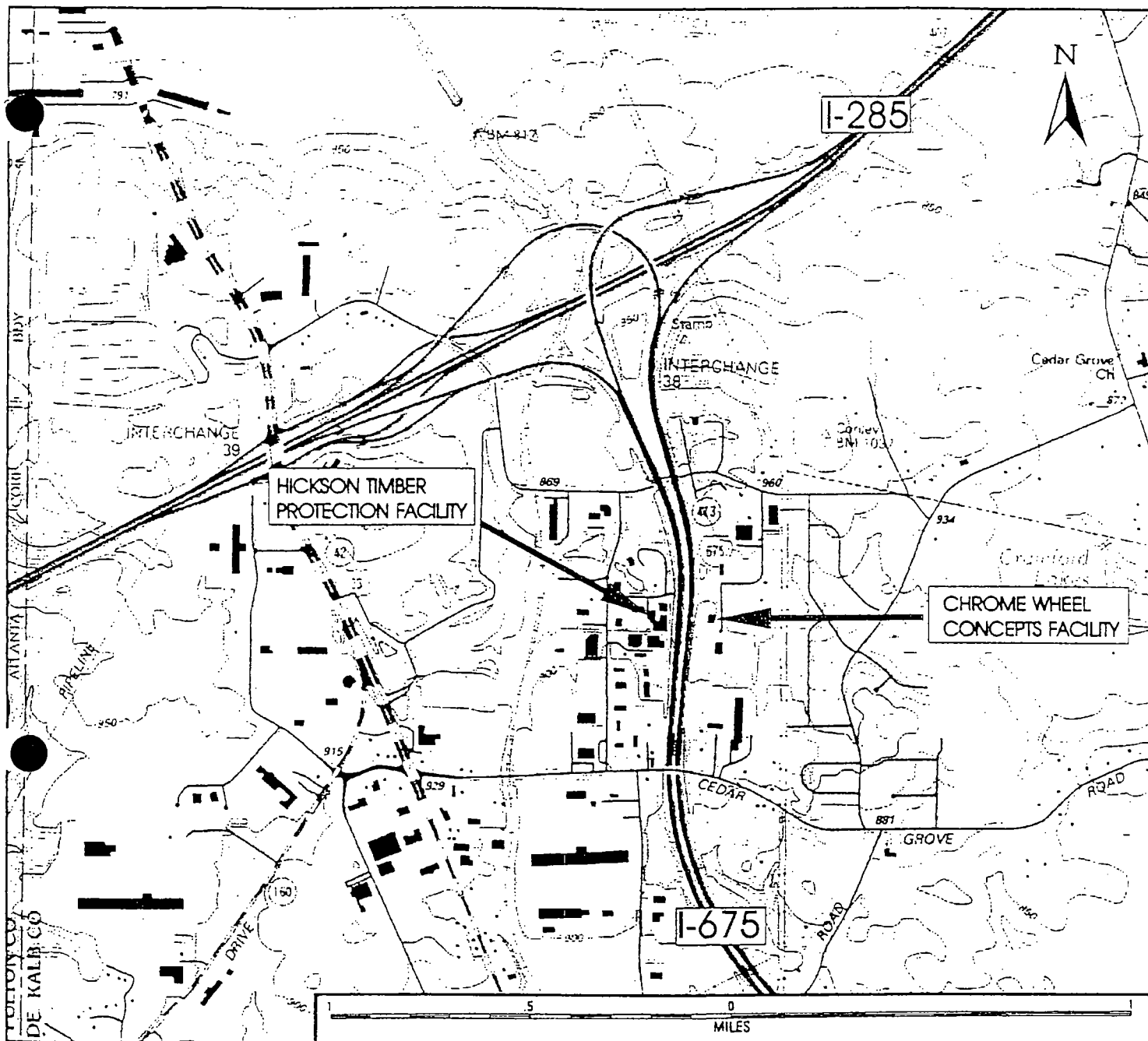
On May 5, 1999, workers at a neighboring property noticed an unusual color in water running through a culvert at the rear of the property located at 1579 Koppers Road, Conley, Georgia. After discovering a suspected point source for the discoloration, the workers contacted the Emergency Response Program of the Georgia Environmental Protection Division. The suspected point source of the discoloration was the backyard of a small plating facility, Chrome Wheel Concepts, located at 4041 Koppers Court, Conley, Georgia. The Georgia Emergency Response Program contacted the Region 4 Emergency Response and Removal Branch for assistance in preventing the immediate threat of continuing migration of the contaminants to the surface water bodies.

An area of discoloration was evident in the soil, and it was covered with a tarp to protect it from the heavy rains falling at the time. The yard drains into a culvert running parallel to Interstate 675, located directly behind the facility. The culvert flows south for approximately 100 yards, joins with another culvert flowing north, and turns under the expressway. The culvert emerges from under the expressway and bisects the neighboring property, eventually discharging into the Yellow River. Responding personnel suspected the discoloration in the water was waste from Chrome Wheel Concepts. Response activities included sampling and removal actions.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

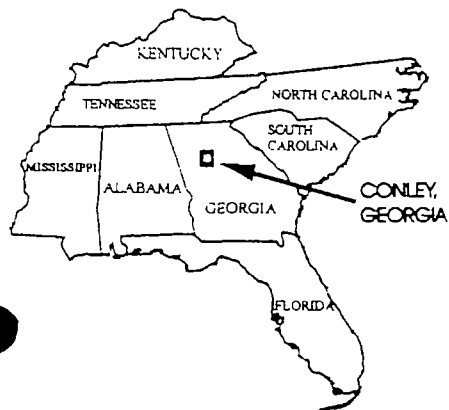
2.1 Location

The Chrome Wheel Concepts site is located at 4041 Koppers Court and is located to the southeast of the city of Atlanta in Conley, Georgia as shown on Figure 1. The geographic coordinates are 84°19'25" W longitude and 33°39'45" N latitude as shown on the United States Geological Survey



MODIFIED FROM USGS 7.5 MINUTE QUADRANGLE MAP
SOUTHEAST ATLANTA, 1993, EDITED 1995

CONTOUR INTERVAL 10 FEET



CHROME WHEEL CONCEPTS
CONLEY, DEKALB COUNTY, GEORGIA

FIGURE 1
GENERAL SITE MAP

(U.S.G.S.) Quadrangle Topographical Map (Reference 1). To reach the site: take the US-23/MORELAND AVE exit off of Interstate 285 (exit number 53), proceed north approximately 0.3 miles, turn right onto Henrico Rd., approximately 1.4 miles turn right onto Koppers Rd., approximately 0.3 miles turn left onto Koppers Court.

The climate in Dekalb County, Georgia consists of average temperatures ranging from 44 degrees Fahrenheit in January to 78 degrees Fahrenheit in July and August (Reference 2). The mean annual rainfall for this area is approximately 50 inches per year (Reference 2).

2.2 Site Description

The total area of the Chrome Wheel Concepts site is approximately one acre. Access to the site is from Koppers Court. Koppers Court is oriented north-south and forms the eastern property boundary. Interstate 675 forms the western boundary; an industrial facility, Iron Peddlers, forms the southern boundary; and a wooded lot forms the northern property boundary to the Chrome Wheel Concepts site. The site layout is depicted in Figure 2. (Reference 3)

2.3 Operational History and Waste Characteristics

Terek Green was the operator of the Chrome Wheel Concepts site. He was purchasing the property from George Tippen. Terek Green defaulted in payments to George Tippen and the property was in the middle of foreclosure.

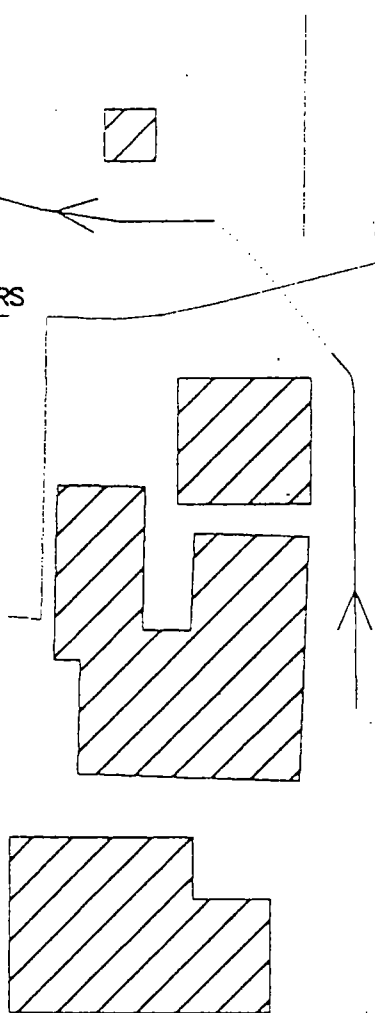
Terek Green submitted an EPA Notification Form on October 6, 1997, as a conditionally exempt small quantity generator, and was issued EPA ID No. GAR000012658. The waste code identified on the notification form was for corrosive waste (Reference 4).

Chrome Wheel Concepts was a manufacturing facility that performed decorative chrome plating on wheel accessories. The actual operations that took place at Chrome Wheel Concepts are unknown. However, the process of chrome plating is very standard, and there is much more to electroplating than the final step of laying down a coating on the plating metal (Reference 5). The surface of the object to be plated must be prepared to accept the finish of the desired metal to be plated. Preparation of the surface would include various aspects of cleaning. Cleaning involves organic solvents and alkaline cleaning solutions. Acid dipping generally follows the cleaning cycle. An undercoating is also applied prior to the final or topcoat of chromium. The undercoats are usually a nickel or copper coating used for the protective values. For building up heavy deposits of undercoating, the parts are first "struck" in a cyanide bath. Chromium is the final finish in the process. Solutions of chromic acid are used in the plating process. The chromium topcoat provides a shiny, decorative appearance.

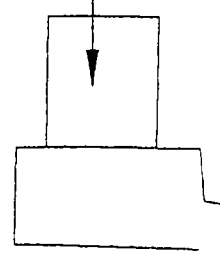
Chrome Wheel Concepts according to Mr. Green ceased operation around the first quarter of 1999. However, on May 5, 1999, workers at a neighboring property noticed an unusual color in water running through a culvert at the rear of the property located at 1579 Koppers Road, Conley, Georgia. After discovering a suspected point source for the discoloration, the workers contacted the Emergency Response Program of the Georgia Environmental Protection Division. The suspected point source of the discoloration was the Chrome Wheel Concepts facility.



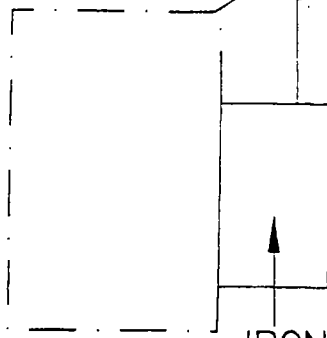
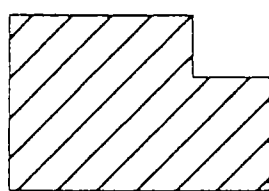
KOPPERS



CHROME
WHEEL
CONCEPTS








KOPPERS COURT



IRON
PEDDLERS

MODIFIED FROM USGS 7.5 MINUTE
QUADRANGLE MAP, SOUTHEAST
ATLANTA, 1993, EDITED 1995
MAP NOT TO SCALE

LEGEND

-  HICKSON TIMBER COMPANY
-  FENCE
-  DRAINAGE CULVERT
-  UNDERGROUND CULVERT
-  FLOW DIRECTION

CHROME WHEEL CONCEPTS
CONLEY, DEKALB COUNTY, GEORGIA

FIGURE 2 SITE LAYOUT MAP

The Georgia Emergency Response Program contacted the Region 4 Emergency Response and Removal Branch for assistance in preventing the immediate threat of continuing migration of the contaminants to the surface water bodies. The response activities included sampling and removal actions. The Region 4 and the Georgia Emergency Response teams took samples of the waste found inside and outside of the building, of the soil, of the sediment, and of the surface water. The sample results are attached as Appendix A. The contaminants of concern are antimony, arsenic, chromium, copper, lead, mercury, nickel, cyanide, and the pH of the solutions. The sample results documented that a release had occurred (Reference 6).

3.0 GROUNDWATER PATHWAY

3.1 Hydrogeologic Setting

This site lies within the Piedmont/Blue Ridge Province. Metamorphic and igneous rocks that range in age from Precambrian to Triassic underlie this area. Common rock types in the area include granite, granite gneiss, biotite gneiss, mica schist, and amphibolite. These rocks are complexly folded and faulted (Reference 7). Weathering processes result in an overlying mantle of unconsolidated material called saprolite as well as the development of soil. These materials together are referred to as the regolith (Reference 8).

Ground water in this area occurs mainly in the saturated regolith and in discontinuities in the underlying rocks, such as joints, fractures, foliation, and weathered zones. The relatively more permeable regolith serves as a reservoir to trap and channel recharge water into the underlying network of discontinuities in the relatively less permeable bedrock. The orientation of these discontinuities controls groundwater flow directions. Because the regolith and bedrock comprise a single flow system, the "uppermost aquifer" is the only aquifer underlying the site (Reference 8).

Groundwater in this area is typically encountered between 10 and 600 feet below ground surface, and with very few exceptions, is under water table conditions (Reference 9). Yields for wells tend to be relatively small due to the low permeability of the crystalline rocks and overlying regolith, which limits the rate of recharge. For this reason, groundwater in this area is second to surface water for municipal supply. Well yields are highly dependent on well placement and site specific geology, however, and locally may be sufficient for municipal supply. (Reference 8)

3.2 Groundwater Targets

There are 413 people within four miles of the Chrome Wheel Concepts site utilizing the groundwater as their source of drinking water (Table 1). The Census report identified seven people using the groundwater for their drinking water within one mile of the site (Reference 10). The location of the known groundwater usage wells is depicted in Figure 3.

Table 1 shows the populations and their water source within distance radii from the site. The population served by city water is not included in the target population for groundwater because the city has a surface water withdraw permit from the Chatahoochee River (Reference 11).

Chrome Wheels Site
4041 Koppers Ct.
Atlanta, Dekalb County

Scale: 1 inch = 1 mile
33 43' 41" 84 16' 50"

USGS GWSI (1999); EPD WRB Non-Municipal Wells (1997);
 veys (2001); Surface Water Intakes from EPD GSB DR96-27(1996);
 nds from Georgia DOT (1993); Census data from U.S. Bureau of Census

Aug. 27, 2001

TABLE 1: DRINKING WATER POPULATIONS

(Reference 10)

Distance Rings (miles)	Population Served By Private Groundwater Wells	Population Served By City Water	Total Population
0 - 0.25	0	63	63
0.25 - 0.50	0	181	181
0.50 - 1.0	7	566	573
1.0 - 2.0	29	7635	7664
2.0 - 3.0	69	21707	21776
3.0 - 4.0	309	39174	39483

3.3 Groundwater Conclusions

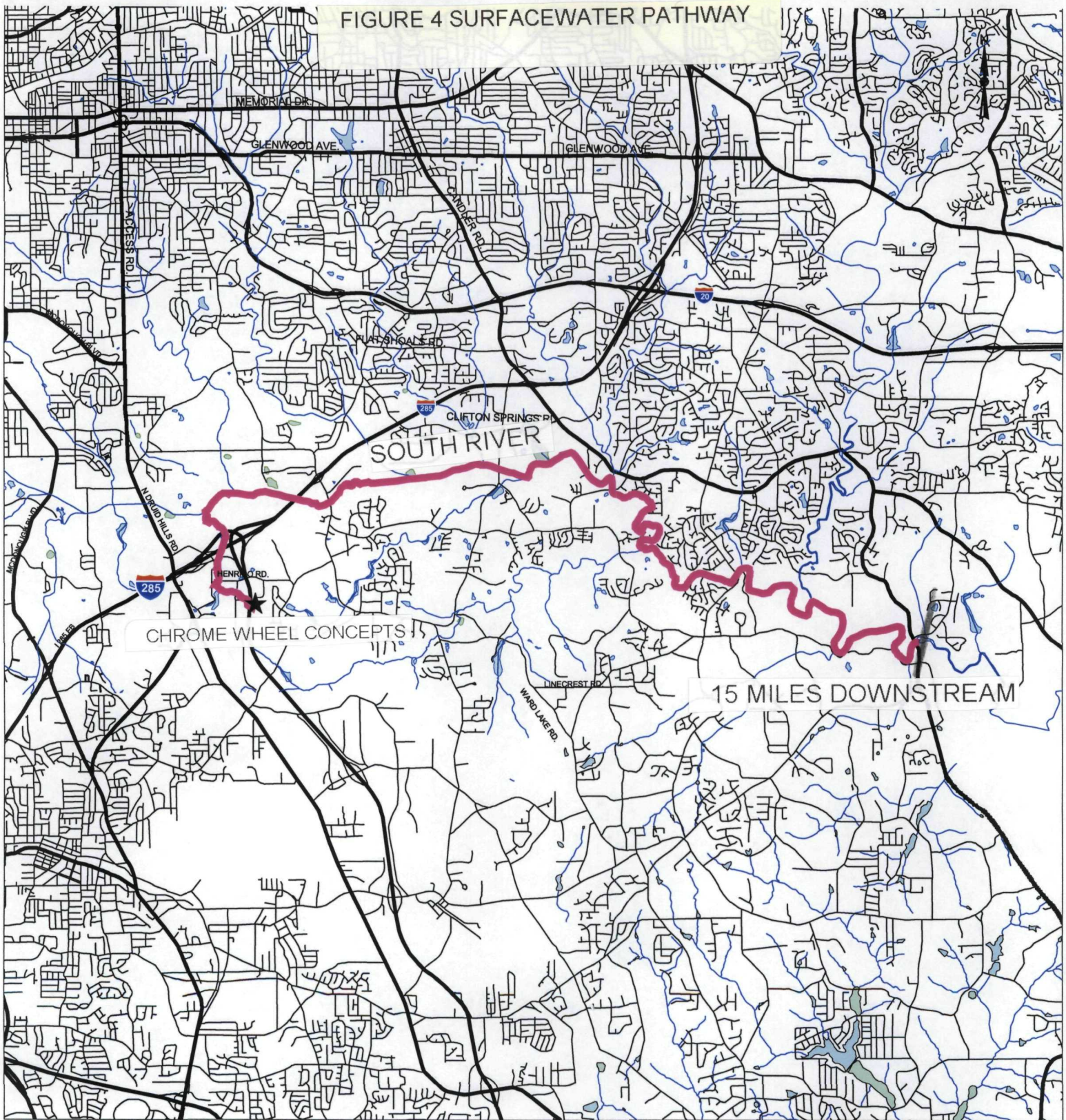
A release of hazardous substances from the Chrome Wheel Concepts property to groundwater is suspected due to the documentation of soil contamination. However, no primary targets were identified. The nearest groundwater usage well is within the ½ to 1 mile distance ring. The populations served by private groundwater wells are considered secondary targets.

4.0 SURFACE WATER PATHWAY

4.1 Hydrologic Setting

The Chrome Wheel Concepts site is not considered to lie in a 100 year mapped floodplain (Reference 12). The topography of the site is such that surface water primarily flows to the west where it drains into a concrete culvert directly behind the facility. The culvert flows south for approximately 100 yards, joins with another culvert flowing north, and turns under the I-675 expressway. The culvert emerges from under the expressway at the rear of an industrial facility and forms a small, unnamed tributary. The unnamed tributary flows north along the east side of Koppers Road. It crosses Bonsal Road and continues flowing northeast. It eventually flows underneath the I-285 exchange and discharges into the South River. The South River flows southeast past the fifteen-mile mark for the Chrome Wheel Concept site and combines with the Yellow River and the Alcovy River. There are designated wetlands throughout the surface water pathway. The flow rate of the unnamed tributary is less than 10 cfs (Reference 13). The South River flows at less than 100 cfs (Reference 13). The surface water 15-mile pathway is depicted in Figure 4.

FIGURE 4 SURFACEWATER PATHWAY



- Roads
- State and US Highways
- Interstate Highways
- Rivers/Streams
- Lake/Pond
- Swamp/Marsh
- 15 Mile Downstream Pathway

Chrome Wheels Site
15 Mile Downstream Pathway
4041 Koppers Ct.
Atlanta , Dekalb County

Scale: 1 inch = 1 mile
33 39' 45" 84 19' 25"

Surface Water Intakes from EPD GSB DR96-27(1996);
 Roads, Rivers, Wetlands from Georgia DOT (1993);

4.2 Surface Water Targets

No surface water intakes are present within 15 miles downstream of the site (Reference 15). Most residents of Dekalb and Henry County receive their drinking water from a system that has a surface water withdraw permit north of the Chrome Wheel Concepts site. Residents not served by a city system receive water from private wells.

The unnamed tributary and the South River downstream of the site are used for recreational fishing. Some of the commonly caught species include catfish, large mouth bass, silver redhorse and crappie (Reference 14). There are over 100 wetlands within 15 miles downstream of the site (Reference 15). The nearest wetland is approximately 50 yards from known contamination (Reference 3).

The endangered, threatened, rare or unusual plants whose range includes Dekalb and Henry Counties, which are included in the fifteen- mile surface water flow, include those listed in Table 2. All plants listed are known to generally occur in these counties. The environment of the surface water pathway includes that similar to the habitats of the plants. There are no endangered or threatened animals along the surface water pathway.

TABLE 2: PROTECTED PLANTS
(Reference 16)

NAME	NAME
<i>Allium speculae</i> Flatrock Onion	<i>Ribes curvatum</i> Granite Gooseberry
<i>Amorpha schwerinii</i> Schwerin Indigo-bush	GA-- <i>Schisandra glabra</i> Bay Starvine
US-- <i>Amphianthus pusillus</i> Pool Sprite, Snorkelwort	GA-- <i>Sedum pusillum</i> Dwarf Granite Stonecrop
<i>Amsonia ludoviciana</i> Louisiana Blue Star	<i>Viburnum rafinesquianum</i> var. <i>rafinesquianum</i> Downy Arrowwood
<i>Anemone berlandieri</i> Glade Windflower	GA-- <i>Waldsteinia lobata</i> Piedmont Barren Strawberry
<i>Aster avitus</i> Alexander Rock Aster	GA-- <i>Melanthium woodii</i> Ozark Bunchflower
US-- <i>Aster georgianus</i> Georgia Aster	GA-- <i>Nestronia umbellula</i> Indian Olive
<i>Eriocaulon koernickianum</i> Pipewort	<i>Panax quinquefolius</i> American Ginseng
<i>Fimbristylis brevivaginata</i> Flatrock Fimbry	<i>Pilularia americana</i> American Pillwort
US-- <i>Isoetes melanospora</i> Black-spored Quillwort	<i>Pycnanthemum curvipes</i> Mountain-mint

* The designation of US or GA is for United States Classification or Georgia's classification.

4.3 Surface Water Conclusions

A release to surface water and sediment is suspected because of the analytical results of surface water and sediment samples taken by EPA and GAEPD. The nearest wetland had documented contamination and is considered a primary sensitive environment. There are numerous wetlands, but no drinking water intakes within 15 miles downstream from the site. There are recreational fishing activities all along the South River that are considered as secondary fisheries.

5.0 SOIL EXPOSURE AND AIR PATHWAY

5.1 Physical Conditions

The Chrome Wheel Concepts site is located in a rural/industrial area in Conley, Georgia. Land use surrounding the site includes undeveloped property and industrial sites. The facility was not currently operating. At the time of the release, there were numerous chemicals onsite inside the building.

5.2 Soil and Air Targets

There are no workers at the site. The nearest residence is greater than 200 feet from the site (Reference 4). There are sixty-three people that live within 0.25 miles of the site, and the total population within a 4-mile radius of the site is 69,739 (Reference 10). The nearest school is approximately 0.5 miles from the site (Reference 4). There exists the possibility that terrestrial sensitive environments for the endangered or threatened species listed on Table 2 are found within the four-mile radius of the site. There are numerous wetlands located within the 4-mile radius of the site.

5.3 Soil Exposure and Air Pathway Conclusions

There is documented soil contamination on the Chrome Wheel Concepts site (Reference 6). The site is located in an industrial area; thereby, there are few potential targets. A release to air is not suspected. During the site reconnaissance, there were no odors emanating from the site and no blowing dust was observed.

6.0 SUMMARY AND CONCLUSIONS

The site is a closed manufacturing facility. The former operator of Chrome Wheel Concepts, Mr. Terek Green., manufactured chrome plated wheel accessories. Chrome Wheel Concepts was a manufacturing facility that performed decorative chrome plating on wheel accessories. The actual operations that took place at Chrome Wheel Concepts are unknown. The plating process used many different hazardous and regulated materials, including solvents, acids, cyanide baths, and metal plating baths. The beginning date of operations on the site as Chrome Wheel Concepts was in 1997. In May 1999, a release was discovered at the Chrome Wheel Concepts site. The Georgia Environmental Protection Division (EPD) and Region 4 Environmental Protection Agency were notified. Samples were taken and identified soil, sediment, and surface water contamination from the Chrome Wheel Concepts site. (Reference 6).

A release of hazardous substances from the Chrome Wheel Concepts property to groundwater is suspected due to the documentation of soil contamination. However, no primary targets were identified. The nearest groundwater usage well is within the ½ to 1 mile distance ring. The populations served by private groundwater wells are considered secondary targets.

A release to surface water and sediment is suspected because of the analytical results of surface water and sediment samples taken by EPA and GAEPD. The nearest wetland is considered a primary sensitive environment. There are numerous wetlands, but no drinking water intakes within

15 miles downstream from the site. There are numerous protected plants identified as possibly existing in Dekalb and Henry counties.

A release has occurred to the soil. No residences, day care centers, or schools are within 200 feet of contamination. There are no workers onsite. There are no terrestrial sensitive environments onsite.

No release is suspected to the air. During the site reconnaissance, there were no odors emanating from the site and no blowing dust was observed.

The pathway of concern for the Chrome Wheel Concepts site is the surface water pathway. The nearest wetland is considered a primary sensitive environment. Additional investigation under CERCLA process is recommended.

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14. Department of Natural Resources website, Georgia, DNR -- Wildlife Resources Division, Fisheries Management Section, 2070 U.S. Hwy. 278, S.E., Social Circle, GA 30279.
15. National Wetlands Inventory Map, U.S. Department of the Interior, Fish and Wildlife Service, Swainsboro, Twin City, and Stillmore Quadrangles
16. Georgia Department of Natural Resources website, Georgia, DNR- Wildlife Resources Division, Nongame Wildlife & Natural Heritage Section, Georgia Natural Heritage Program, 2117 US Hwy 278 SE, Social Circle, Georgia 30025.

APPENDIX A

**CHROME WHEEL CONCEPTS
SAMPLING ANALYTICAL DATA**

**TABLE 1: CHROME WHEEL CONCEPTS SAMPLING ANALYTICAL DATA
(WASTE SAMPLES)**

Parameters	Sample Identification, Date, and Location						
	CW-W-01	CW-W-02	CW-W-03	CW-W-07	AC50917	AC50923	Regulatory Limit
	5/6/99	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99	
	Contents of Garden Hose	Drum 45 inside bldg.	Drum 49 inside bldg.	Vat 53 inside bldg.	Container 5 inside bldg.	Container 26 inside bldg.	
	mg/L ^{1,2}	mg/kg ¹	mg/kg ¹	mg/kg ¹	mg/L ²	mg/L ²	TCLP mg/L
Antimony	1,400	ND	ND	ND	NA	NA	N/A
Arsenic	ND	ND	ND	ND	ND	ND	5.0
Chromium	175,000	1.2	1.1	7.6	28	370	5.0
Copper	148	ND	ND	320	NA	NA	N/A
Lead	61.8	ND	ND	ND	ND	0.6	5.0
Mercury	ND	ND	ND	ND	NA	NA	0.2
Nickel	38.6	18	ND	ND	NA	48	N/A
Cyanide	0.05	ND	ND	ND	ND	Nd	N/A
pH	0.04	<1	<1	<1	9.6	2.1	<2.5 & >12.5
Hazardous Waste Codes that would apply to samples	D002, D007, D008	D002	D002	D002	D007,	D002, D007	

Notes: ¹ EPA Sampling Results
² TCLP sample results
< Less than
mg/kg Milligrams per kilogram
mg/L Milligrams per liter
ND Not detected when analyzed
NA Constituent not analyzed
N/A Not applicable-no regulatory limit has been established
TCLP Toxicity Characteristic Leachate Procedure

**TABLE 1: CHROME WHEEL CONCEPTS SAMPLING ANALYTICAL DATA
(WASTE SAMPLES)**

Parameters	Sample Identification, Date, and Location						
	AC50921	AC50915	AC50919	AC50916	AC50918	AC50920	Regulatory Limit
	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99	
	Container 19 inside bldg.	Container 1 inside bldg.	Container 6 inside bldg.	Container 8 inside bldg.	Container 9 inside bldg.	Container 13 inside bldg.	
	mg/L ¹	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	TCLP mg/L
Antimony	NA	NA	NA	NA	NA	NA	N/A
Arsenic	ND	ND	ND	ND	37	ND	5.0
Chromium	120,000	84	85	ND	3.7	1.0	5.0
Copper	NA	39	1.9	27	9.4	54,000	N/A
Lead	ND	11	ND	ND	25	ND	5.0
Mercury	NA	NA	NA	NA	NA	NA	0.2
Nickel	NA	30	ND	1.1	90,000	26	N/A
Cyanide	ND	ND	ND	ND	ND	ND	N/A
pH	<1.0	2.3	10.4	7.5	4.7	<1.0	<2.5 & >12.5
Hazardous Waste Codes that would apply to samples	D002, D007	D002				D002	

Notes: ¹ EPA Sampling Results
² TCLP sample results
< Less than
mg/kg Milligrams per kilogram
mg/L Milligrams per liter
ND Not detected when analyzed
NA Constituent not analyzed
N/A Not applicable-no regulatory limit has been established
TCLP Toxicity Characteristic Leachate Procedure

**TABLE 1: CHROME WHEEL CONCEPTS SAMPLING ANALYTICAL DATA
(WASTE SAMPLES)**

Parameters	Sample Identification, Date, and Location						Regulatory Limit
	AC50922	AC50924	AC50925	AC50914	AC50927	AC50926	
	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99	5/10/99	
	Container 25 inside bldg.	Container 27 inside bldg.	Container 28 inside bldg.	Container 31 inside bldg.	Container 38 inside bldg.	Container 34 inside bldg.	
	mg/kg						TCLP mg/L
Antimony	NA	NA	NA	NA	NA	NA	N/A
Arsenic	32	ND	ND	ND	ND	ND	5.0
Chromium	24	5.4	ND	2.3	ND	1.4	5.0
Copper	2.9	28	3,800	69	1.3	37	N/A
Lead	25	ND	84	ND	ND	5.0	5.0
Mercury	NA	NA	NA	NA	NA	NA	0.2
Nickel	72,000	90	12,000	43	1.8	19	N/A
Cyanide	ND	ND	2,700	NA	ND	ND	N/A
pH	4.5	2.3	12.8	<1.0	10.0	<1.0	<2.5 & >12.5
Hazardous Waste Codes that would apply to samples		D002	D002, F007	D002			

Notes: ¹ EPA Sampling Results
² TCLP sample results
< Less than
mg/kg Milligrams per kilogram
mg/L Milligrams per liter
ND Not detected when analyzed
NA Constituent not analyzed
N/A Not applicable-no regulatory limit has been established
TCLP Toxicity Characteristic Leachate Procedure

**TABLE 2: CHROME WHEEL CONCEPTS SAMPLING ANALYTICAL DATA
(SOIL SAMPLES)**

Parameters	Sample Identification, Date, and Location						Regulatory Limit
	AC50544	AC50540	CW-SS-03	CW-SS-BAK	CW-CON-01	CW-CON-02	
	5/6/99	5/5/99	5/7/99	5/7/99	5/7/99	5/7/99	
	Split sample from EPA CW-SS-02	Split sample from EPA CW-SS-01	Confluence	Background location 50 yards upstream of facility	Tarped area excavated	Additional excavated area	TCLP mg/L
	mg/kg	mg/L ²	mg/kg ¹	mg/kg ¹	mg/kg	mg/kg	
Antimony	NA	NA	ND	ND	ND	ND	N/A
Arsenic	ND	ND	ND	ND	ND	ND	5.0
Chromium	44	38	99	89	67	120	5.0
Copper	35	ND	62	54	34	20	N/A
Lead	7.3	ND	23	ND	ND	7.8	5.0
Mercury	NA	NA	ND	ND	ND	ND	0.2
Nickel	4,000	13	71	110	94	210	N/A
Cyanide	NA	ND	ND	ND	ND	ND	N/A
pH	NA	2.3	7.04	5.93	6.54	5.33	<2.5 & >12.5
Hazardous Waste Codes that would apply to samples		D002, D007					

Notes: ¹ EPA Sampling Results
² TCLP sample results
< Less than
mg/kg Milligrams per kilogram
mg/L Milligrams per liter
ND Not detected when analyzed
NA Constituent not analyzed
N/A Not applicable-no regulatory limit has been established
TCLP Toxicity Characteristic Leachate Procedure

**TABLE 3: CHROME WHEEL CONCEPTS SAMPLING ANALYTICAL DATA
(SEDIMENT SAMPLES)**

Parameters	Sample Identification, Date, and Location						
	CW-SD-01	CW-SD-02	CW-SD-03	CW-SD-01	CW-SD-02	CW-SD-03	Regulatory Limit
	5/5/99						
	Sediment samples on west side of I-675 (Hickson property)						
	Total Analysis mg/kg ¹			Toxicity Characteristic Leachate Procedure mg/L ¹			TCLP mg/L
Antimony	ND	ND	ND	0.0232	ND	0.0221	N/A
Arsenic	140	82	64	0.0259	ND	ND	5.0
Chromium	330	260	130	1.25	45.6	0.422	5.0
Copper	680	570	890	6.57	4	13	N/A
Lead	25	ND	ND	ND	ND	ND	5.0
Mercury	0.191	ND	ND	ND	ND	ND	0.2
Nickel	420	310	420	7.9	14.5	8.15	N/A
Cyanide	ND	3.6 mg/kg	ND				N/A
pH	5.28	3.87	4.78				<2.5 & >12.5
Hazardous Waste Codes that would apply to samples					D007		

Notes: ¹ EPA Sampling Results
² TCLP sample results
< Less than
mg/kg Milligrams per kilogram
mg/L Milligrams per liter
ND Not detected when analyzed
NA Constituent not analyzed
N/A Not applicable-no regulatory limit has been established
TCLP Toxicity Characteristic Leachate Procedure

**TABLE 4: CHROME WHEEL CONCEPTS SAMPLING ANALYTICAL DATA
(SURFACE WATER SAMPLES)**

Parameters	Sample Identification, Date, and Location			
	CW-SW-01	CW-SW-02	CW-SW-03	Regulatory Limit
	5/5/99			
	South end of drainage culvert	South end of drainage culvert	West side of I-675 where the drainage ditch comes out under the expressway	
	mg/L ¹			TCLP mg/L
Antimony	0.913	ND	ND	N/A
Arsenic	ND	1.96	ND	5.0
Chromium	9.1	2,430	253	5.0
Copper	739	157	465	N/A
Lead	0.351	ND	ND	5.0
Mercury	0.00065	.001	0.00086	0.2
Nickel	2,480	1,140	498	N/A
Cyanide	0.01	0.057	ND	N/A
pH	2.79	3.66	3.72	<2.5 & >12.5
Hazardous Waste Codes that would apply to samples	D007	D007	D007	

Notes: ¹ EPA Sampling Results
² TCLP sample results
< Less than
mg/kg Milligrams per kilogram
mg/L Milligrams per liter
ND Not detected when analyzed
NA Constituent not analyzed
N/A Not applicable-no regulatory limit has been established
TCLP Toxicity Characteristic Leachate Procedure



Notification Form



To save history for the Installation Name or Activity Information you MUST CHANGE the Received Date.

General Information:		
Source of Information: N - Notification	Received Date: 10/6/1997	
Non-notifier: <input type="checkbox"/>	<input checked="" type="checkbox"/> Extract to Public	Send Acknowledgement: <input type="checkbox"/>

I. Installation ID:		
EPA ID: GAR000012658	Activity Location: GA	Second ID: <input type="text"/>

II. Name of Installation (Include company and specific site name):	
Installation Name:	CHROME WHEEL CONCEPTS INC

III. Location of Installation (Physical address not P.O. Box or Route)				
Number: 4041	Street1: KOPPERS COURT			
	Street2: <input type="text"/>			
City: CONLEY	State: GA - Georgia	Zip code: 30288		
County: DE KALB - GA089	State District: <input type="text"/>			

IV. Installation Mailing Address:		Copy address from: <input checked="" type="checkbox"/>		
Number: 4041	Street or P.O. Box: KOPPERS COURT			
	Street or P.O. Box: <input type="text"/>			
City: CONLEY	State: GA - Georgia	Zip code: 30288		

V. Installation Contact (Person to be contacted regarding waste activities at site):			
Last Name: GREEN	First Name: TEREK		
Job Title: PRESIDENT	Phone Number: 4043615200		

VI. Installation Contact Address:		Copy address from: <input type="checkbox"/>	
	Street or P.O. Box:	4041 KOPPERS COURT	
	Street or P.O. Box:		
City:	CONLEY	State:	GA - Georgia <input type="checkbox"/>
		Zip code:	30288

VII. Ownership:		Copy address from: <input type="checkbox"/>	
Owner No.:	1	Name of Legal Owner:	GREEN TEREK
	Street or P.O. Box:	4041 KOPPERS COURT	
	Street or P.O. Box:		
City:	CONLEY	State:	GA - Georgia <input type="checkbox"/>
		Zip code:	30288
Phone Number:	4043615200	Land Type:	P - Private <input type="checkbox"/>
		Owner Type:	P - Private <input type="checkbox"/>
Change Date: <input type="checkbox"/>			

VIII. Type of Federal Regulated Waste Activity:		To save history you MUST CHANGE the Rec	
A. Hazardous Waste Activity			
Type		Federally Regulated	
1. Generator			
3 - HQ - Conditionally Exempt SQG <input type="checkbox"/>		R - RCRA Regulated <input type="checkbox"/>	
Description:			
2. Transporter			
<input type="checkbox"/>		<input type="checkbox"/>	
Description:			
Mode of Transportation:		<input type="checkbox"/> Air <input type="checkbox"/> Rail <input type="checkbox"/> Highway <input type="checkbox"/> Water Other: <input type="checkbox"/>	
3. Treater, Storer, Disposer			
<input type="checkbox"/>		<input type="checkbox"/>	
Description:			
4. Hazardous Waste Fuel			

<input type="text"/>		<input type="text"/>	
Description:			
5. Other Activity(ies)		<input type="checkbox"/> Underground Injection Control	
B. Universal Waste Activity:			
<input type="text"/>		<input type="text"/>	
Description:			
C. Used Oil Management Activities:			
Type		Federally Regulated	
<input type="text"/>		<input type="text"/>	
Description:			
1. Used Oil Fuel Marketer			
<input type="checkbox"/> Marketer Directs Shipment of Used Oil to Off-Specification Burner			
<input type="checkbox"/> Marketer Who First Claims the Used Oil Meets the Specifications			
2. Used Oil Transporter Activity		<input type="text"/>	
3. Used Oil Processor/Re-refiner Activity		<input type="text"/>	
4. Off-Specification Used Oil Burner		<input type="checkbox"/>	

IX. Waste Codes:					Add/Update Codes
Type D	Type F	Type K	Type P	Type U	Type X
D002					

X. Comments:
<input type="text"/>

[Cancel](#) [Save](#)

URL: /Handler/HAND_notif_addupd.asp

**Chrome Wheels Site
4041 Koppers Ct
Atlanta, Dekalb**

LAT 33° 39' 45"N / LONG 84° 19' 25"W

RAD	Population		Households		Households		Households		Population		Population	
	Ring	Total	Ring	Total	Ring	Total	Ring	Total	Ring	Total	Ring	Total
.25	63	63	21	21	0	0	21	21	0	0	63	63
.5	182	245	60	81	0	0	60	81	0	0	181	245
1	572	817	200	281	3	4	196	277	7	7	566	810
2	7664	8481	2441	2722	12	16	2429	2706	29	36	7635	8445
3	21776	30257	6998	9720	23	39	6975	9682	69	105	21707	30152
4	39482	69739	12595	22315	64	103	12531	22212	309	413	39174	69326

Source: Census of Populaton and Housing, 1990: Summary Tape File 3 on CD-ROM Georgia [machine-readable data files] / prepared by the Bureau of the Census. -Washington: The Bureau [producer and distributor], 1992.

REFERENCE 10

REFERENCE 6

LETTER REPORT
KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 4 Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

TDD No.	:	04-9905-0002
Completion Date	:	August 31, 1999
Contract No.	:	68-W5-0021
Prepared by	:	Tetra Tech EM Inc.
START Project Manager	:	Charles L. Berry
Telephone No.	:	(770) 717-2338
EPA Task Monitor	:	Francis Garcia
Telephone No.	:	(404) 562-8763

**LETTER REPORT
KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA**

1.0 SITUATION

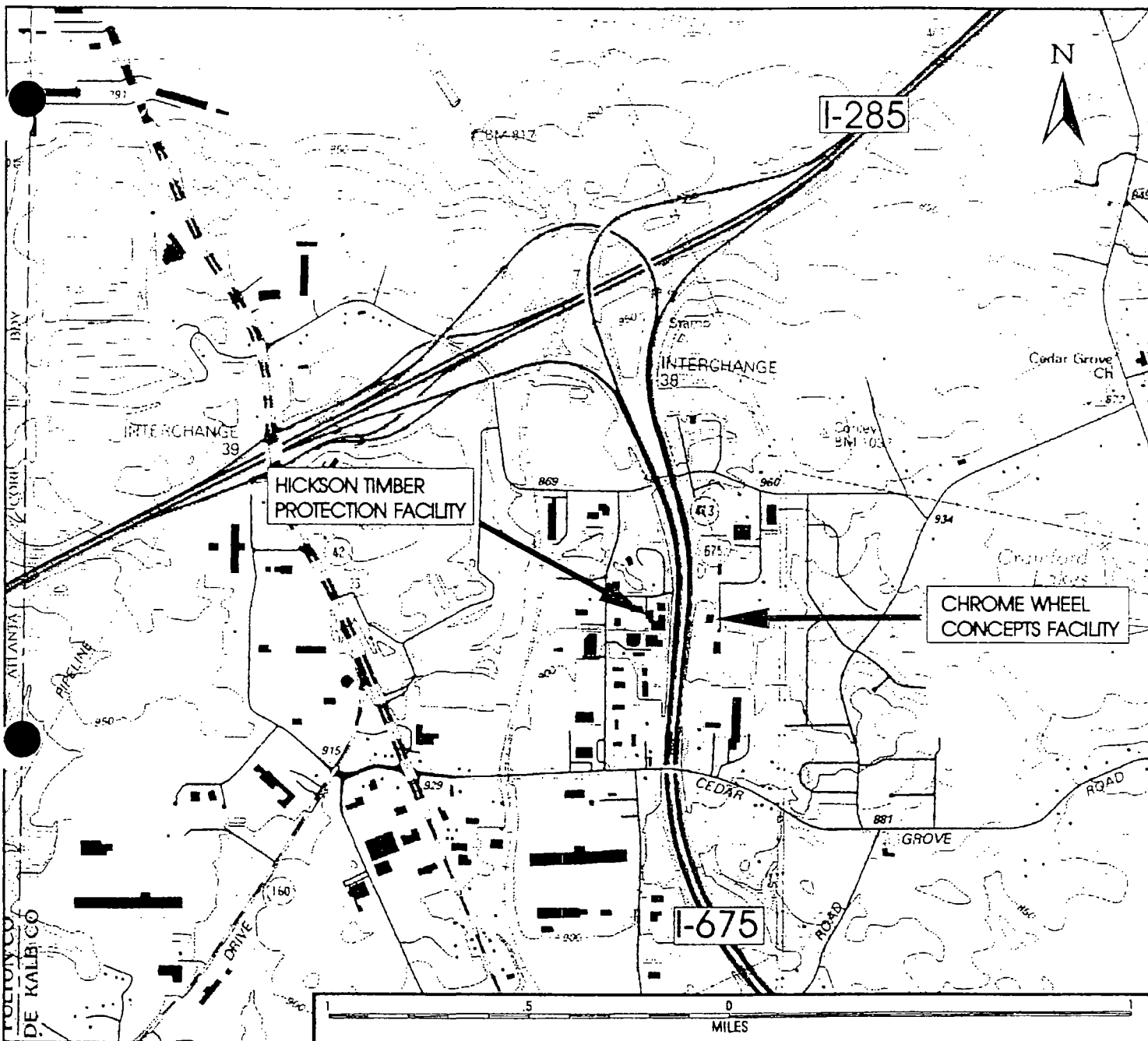
This document has been prepared in accordance with the requirements of Technical Direction Document (TDD) No. 04-9905-0002, which the U.S. Environmental Protection Agency (EPA) Region 4 assigned to the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START). The overall scope of this TDD, monitored by On-Scene Coordinator (OSC) Francis Garcia, was to respond to the scene of a suspected release of plating wastes in Conley, Dekalb County, Georgia (see Figure 1). Specific tasks included preparing a health and safety plan, collecting multi-media sampling, conduct air monitoring, and perform contractor oversight.

2.0 BACKGROUND

On May 5, 1999, workers at the Hickson Timber Protection plant (Hickson) in Conley, Georgia, noticed an unusual color in water running through a culvert at the rear of the property located at 1579 Koppers Road, Conley, Georgia. After discovering a suspected point-source for the discoloration, Hickson contacted the Georgia Environmental Protection Division (EPD) which contacted EPA. START was tasked to respond to the release at about 1500 hours on May 5, 1999.

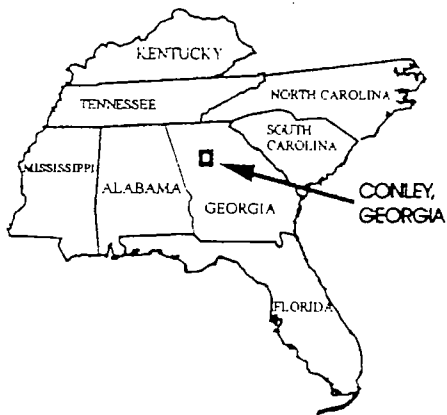
3.0 SUMMARY

The suspected point-source of the discoloration was the backyard of a small plating facility, Chrome Wheel Concepts, located at 4041 Koppers Court, Conley, Georgia (see Figure 2). An area of discoloration was evident in the soil, and it was covered with a tarp to protect it from the heavy rains falling at the time. The yard drains into a culvert running parallel to I-675, located directly behind the facility. The culvert flows south for approximately 100 yards, joins with another culvert flowing north, and turns under the expressway. The culvert emerges from under the expressway at the rear of the



MODIFIED FROM USGS 7.5 MINUTE QUADRANGLE MAP
SOUTHEAST ATLANTA, 1993, EDITED 1995

CONTOUR INTERVAL 10 FEET



KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA
TDD No. 04-9905-0002

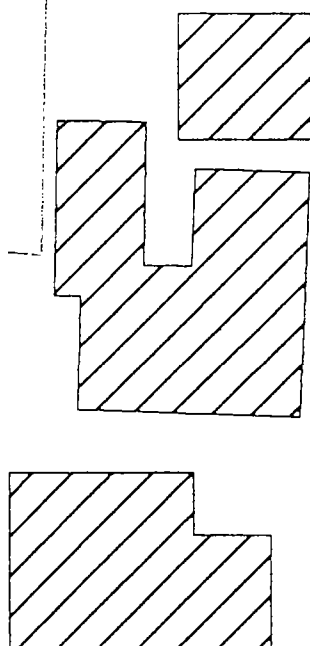


FIGURE 1
GENERAL SITE MAP

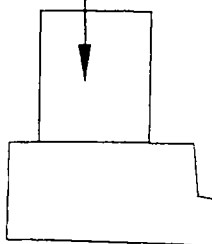




KOPPERS COURT



CHROME
WHEEL
CONCEPTS








IRON
PEDDLERS



MODIFIED FROM USGS 7.5 MINUTE
QUADRANGLE MAP, SOUTHEAST
ATLANTA, 1993, EDITED 1995
MAP NOT TO SCALE

LEGEND

-  HICKSON TIMBER COMPANY
-  FENCE
-  DRAINAGE CULVERT
-  UNDERGROUND CULVERT
-  FLOW DIRECTION

KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA
TDD No. 04-9905-0002

FIGURE 2 SITE LAYOUT MAP

 Tetra Tech EM Inc. START

Hickson facility and flows north along the east side of Koppers Court, eventually discharging into the Yellow River. Responding personnel suspected the discoloration in the water was waste from the plating facility. Response activities at the Koppers Court Release included sampling and removal actions. The details of each are described below.

3.1 SAMPLING

START sampled several different types of media including soil, water, sediment, and waste. All samples were collected at the direction of OSC Francis Garcia. The details are provided below.

3.1.1 Soil Sampling

START collected four soil samples during the response at locations illustrated on Figure 3. The samples were collected and sent to a START-contracted laboratory for analysis for priority pollutant metals, toxicity characteristic leachate procedures (TCLP) priority pollutant metals, total cyanide, and pH. Two soil samples were collected on May 5, 1999, in the area of the confluence of the two culverts. Analysis of these samples showed chromium levels of 4,000 parts per million (ppm) (see Figure 3). An additional soil sample, taken from this same area the next day after several inches of rain had fallen, contained chromium at 99 ppm.

START additionally collected a composite soil sample from the backyard of the Chrome Wheel facility in an area of stressed vegetation, as well as a background sample from an area 50 yards upstream of the culvert. Chromium levels in the background sample were at 89 ppm, while the composite sample from the area of stressed vegetation showed chromium levels of 51 ppm. For a complete listing of analytical results see Appendix D.

3.1.2 Sediment Sampling

START collected several sediment samples from the culvert on the Hickson Timber property. The

samples were collected and sent to AES Analytical Services (AES) for analysis for Priority pollutant metals, TCLP priority pollutant metals, total cyanide, and pH. On May 5, 1999, three sediment samples were collected from the first 150 feet of the culvert (see Figure 3). All three samples showed elevated levels of chromium and arsenic. On May 11, OSC Garcia tasked START to return to the site and resample the portion of culvert previously sampled, as well as sample further downstream, to see if any contamination remained after the heavy rains. Laboratory analysis reported high levels of both chromium and arsenic in the second round of sampling (see Appendix D).

3.1.3 Water Sampling

On May 5, 1999, START collected three water samples from the culvert. The samples were sent to AES for analysis for priority pollutant metals, total cyanide, and pH. Two samples were taken in the area of the confluence on the east side of the expressway, while the third was taken from the culvert on the west side of the expressway (downgradient). Samples CW-WS-02 and CW-SW-03 showed elevated levels of chromium at 2,430 ppm and 253 ppm, respectively.

3.1.4 Waste Sampling

On May 6, 1999, START collected sample CW-W-01 from a garden hose in the backyard of the Chrome Wheel facility (see Figure 4). This hose was suspected of being used to transfer waste from the facility to the culvert. Approximately 1.75 liters of a dark, reddish-brown liquid was removed from the hose and was split between START and the EPD. Laboratory analysis showed the sample to contain 175,000 ppm (17.5% by weight) chromium and 1,400 ppm antimony. This sample had a pH of 0.04.

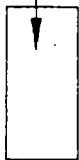
On May 8, 1999, START, OSC Garcia, and members of the EPD made an entry into the Chrome Wheel Concepts facility (see Figure 4). The facility appeared closed, and all furniture and office equipment was removed. The only items left inside the building were various drums, 5-gallon buckets, and poly vats left in the plating line. OSC Garcia instructed START to collect waste samples from several vats and drums in the facility. START collected six waste samples from these containers and sent them to AES for



CW-W-07
VAT 53

OFFICE

EXTERIOR VAT

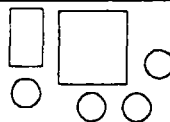
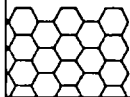


CW-W-01



CW-W-02
DRUM 45

CW-W-03
DRUM 49



CW-W-06
VAT 38

CW-W-05
VAT 28

CW-W-04
VAT 19

ROLL-UP LOADING
BAY DOOR

ROLL-UP LOADING
BAY DOOR

LEGEND



5-GALLON CONTAINERS



VAT



SAMPLING LOCATION



GARDEN HOSE



DRUM

KOPPERS COURT RELEASE
CONLEY, DEKALB COUNTY, GEORGIA
TDD No. 04-9905-0002

FIGURE 4
WASTE SAMPLING LOCATION MAP



Tetra Tech EM Inc. START

MAP NOT TO SCALE

analysis for priority pollutant metals, total cyanide, and pH. Sample CW-W-04, taken from vat 19, showed elevated chromium levels of 550 ppm. Sample CW-W-05, taken from vat 28, showed total cyanide levels of 10,300 ppm. Samples CW-W-02, CW-W-03, CW-W-04 and CW-W-07 all had a pH below 2.

3.2 REMOVAL ACTIONS

During the response, International Technologies (IT), the Emergency and Rapid Response Services (ERRS) contractor, removed both soil and liquid from the release area. Hickson Timber privately contracted Fisher Industries to remove liquid from the culvert on the Hickson property. The details of the removal are described below.

3.2.1 Liquid Removal

On May 5, 1999, Fisher Industries removed several hundred gallons of liquid from the culvert on the Hickson property. The removal of this liquid was hampered by the heavy rains that fell on May 5 and 6. Fisher received permission from OSC Garcia to pump liquid from its vacuum truck into a poly storage tank brought on site by IT. On May 6, 1999, IT began pumping liquid from the culvert on the Chrome Wheel side of the expressway. It removed approximately 2,000 gallons of liquid from the confluence of the two culverts. The liquid was stored on site in a poly storage tank until disposal arrangements could be made. Initial plans were for IT to pressure-wash the culvert behind the Chrome Wheel facility and reclaim the runoff, but due to the substantial rains that fell, OSC Garcia decided this was unnecessary.

3.2.2 Soil Removal

On May 6, 1999, IT began removing soil from the backyard of the Chrome Wheel facility, in the area of the stressed vegetation (see Figure 5). An area approximately 40 feet by 40 feet square was initially removed, but green water seen leaching from the sides of the excavated area prompted OSC Garcia to direct the removal of additional soil. The initial excavation was increased to 2 feet below ground

surface, and a portion of the culvert bank was removed to the same depth until no further leachate was visible. START then collected two confirmation samples from the excavated areas. The confirmation sample taken from the excavated area next to the culvert, sample CW-CON-02, showed slightly elevated chromium levels of 120 ppm.

IT removed two roll-off containers of soil from the site, each containing approximately 20 cubic yards of soil. A third roll-off container containing limbs, plastic, and other various types of debris was also removed. IT collected composite samples of the contents to help develop a disposal profile for the waste. The soil and debris were taken to the BFI Hickory Ridge landfill in Conley, Georgia, for disposal as nonhazardous waste.

4.0 CONCLUSIONS

START was tasked to respond to a suspected release of plating wastes at the Chrome Wheel Concepts plating facility on Koppers Court, Conley, Georgia. START collected soil, water, sediment, and waste samples from the site. Elevated levels of chromium, antimony, and cyanide were found in the samples. IT and a private removal contractor removed approximately 2,500 gallons of suspected contaminated runoff water from the culvert. IT also excavated about 40 cubic yards of contaminated soil from the facility's backyard, and removed it from site to an appropriate disposal facility as nonhazardous waste.

Members of the Georgia EPD Criminal Investigation Division (CID) were on site to gather evidence for use in a possible state criminal action against the Chrome Wheel Concepts facility owner. Once the immediate threat to human health and the environment was removed, EPA released control of the site to EPD. No further EPA action at the site is anticipated. No further START activities are required under this TDD.

APPENDIX A
TABLE OF WITNESSES
(2 Sheets)

TABLE OF WITNESSES

Francis Garcia, On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303
(404) 562-8763

Charles Berry, Project Manager
Michael Morgan
Parry Bhambra
Superfund Technical Assessment and Response Team, Region 4
Tetra Tech EM Inc.
1750 Corporate Drive, Suite 735
Norcross, Georgia 30093
(770) 717-2338

Scott Lyle, Response Manager
International Technology Corporation
5445 Triangle Parkway
Norcross, Georgia 30092
(770) 729-3900

John W. Hill, Investigative Officer
Georgia Department of Natural Resources
Atlanta Tradeport
4244 International Parkway
Atlanta, Georgia 30354
(404) 362-4917

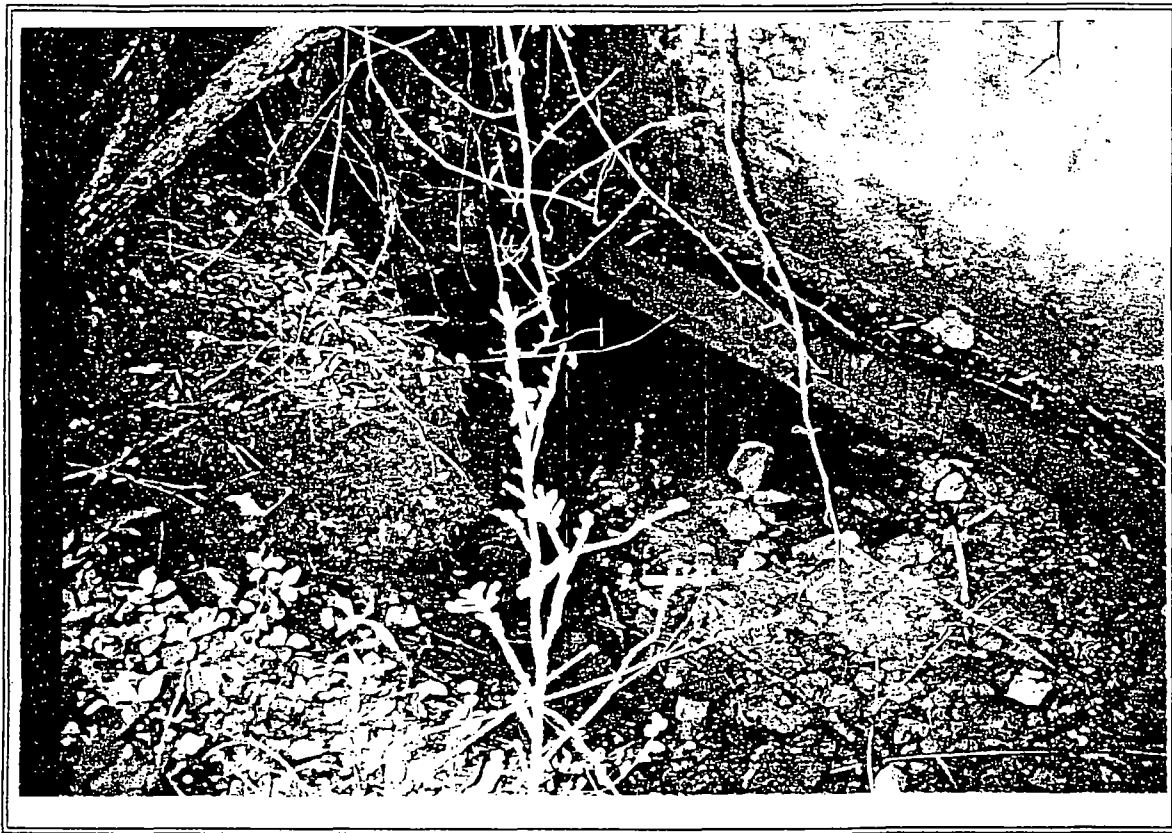
K. Scott Robertson, PG
Georgia Environmental Response Division
Emergency Response Team
7 Martin Luther King Jr. Drive, Suite 643
Atlanta, Georgia 30334
(404) 656-6905

William J. Baldwin, Vice President Operations & Industry Relations
Hickson Corporation
1955 Lake Park Drive, Suite 250
Smyrna, Georgia 30080

(770) 801-6600

Stephen E. Cochran, Regional Sales Manager
Fisher Industrial Service, Inc.
Post Office Box 5410
Glencoe, Alabama 35905-0410
(256) 492-8340

APPENDIX B
PHOTOGRAPHIC LOG
(13 Sheets)



OFFICIAL PHOTOGRAPH No. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Sampling location CW-SW-01

Location: Koppers Court Release
Conley, Dekalb County, Georgia

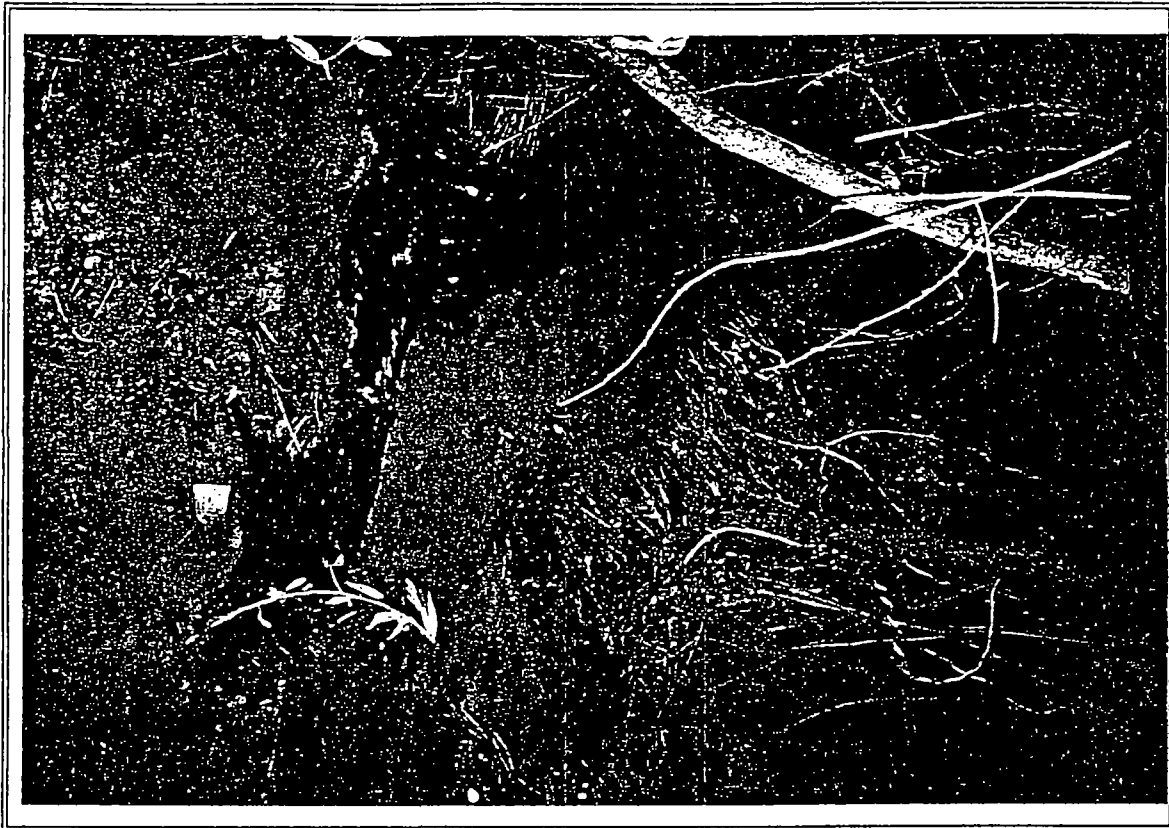
Orientation: South

TDD Number: 04-9905-0002

Date: May 6, 1999

Photographer: Charles Berry, START

Witness: Mike Morgan, START



OFFICIAL PHOTOGRAPH No. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Sampling locations CW-SS-01 and CW-SW-02

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: North

TDD Number: 04-9905-0002

Date: May 6, 1999

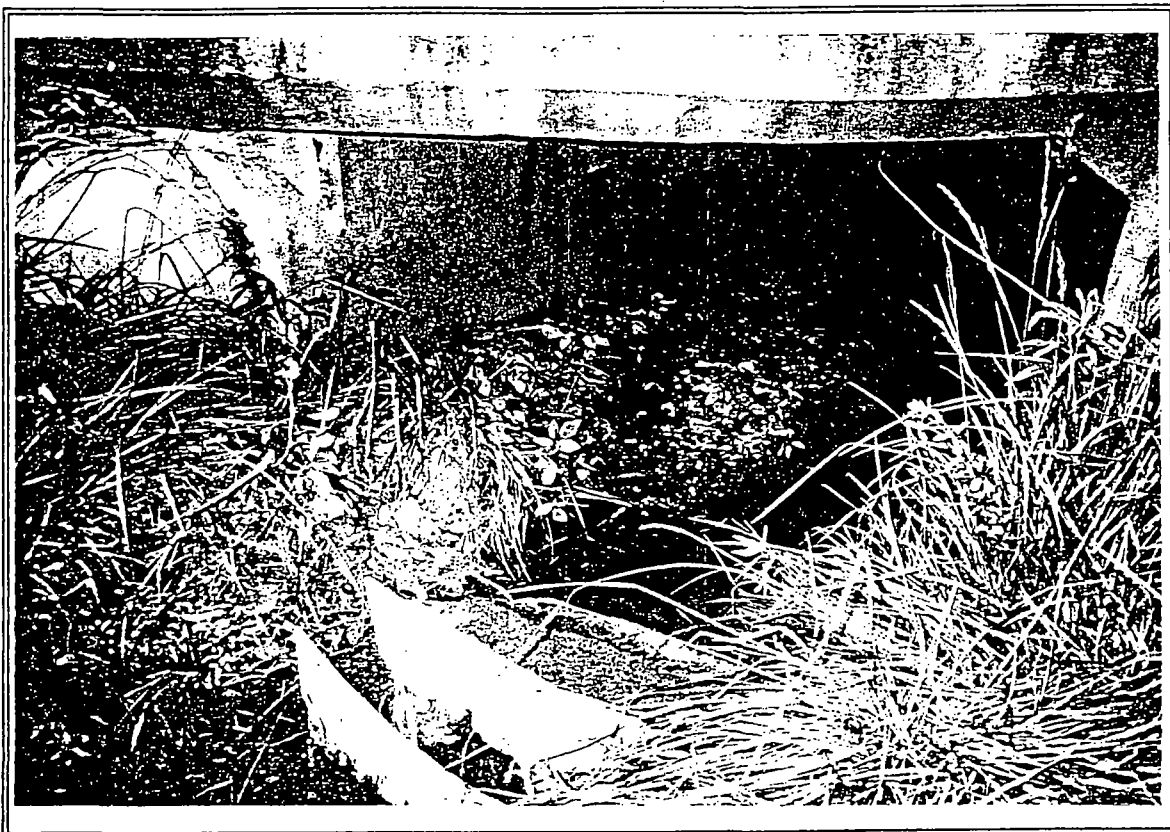
Photographer: Charles Berry, START

Witness: Mike Morgan, START



OFFICIAL PHOTOGRAPH No. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sampling location CW-SS-03		
Location:	Koppers Court Release Conley, Dekalb County, Georgia		
Orientation:	North		
TDD Number:	04-9905-0002	Date:	May 7, 1999
Photographer:	Charles Berry, START	Witness:	Francis Garcia, EPA



OFFICIAL PHOTOGRAPH No. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

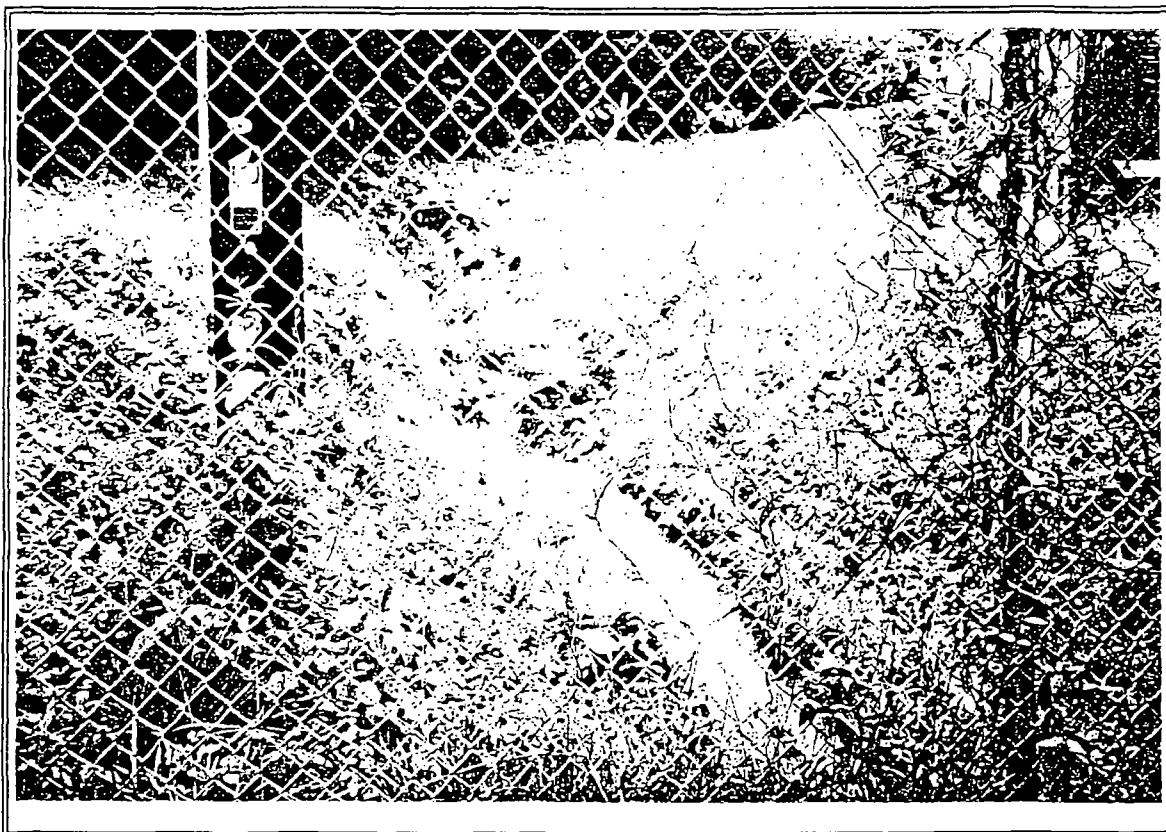
Subject: Culvert emerging from under I-675 on Hickson property; sampling location CW-SW-03

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: East

TDD Number: 04-9905-0002 **Date:** May 6, 1999

Photographer: Charles Berry, START **Witness:** Mike Morgan, START



OFFICIAL PHOTOGRAPH No. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Culvert on Hickson property; samples CW-SD-01, -02, and -03 were collected from this area on May 6, 1999, and samples CW-SD-04, -05, and -06 were collected on May 11, 1999.

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: South

TDD Number: 04-9905-0002

Date: May 6, 1999

Photographer: Charles Berry, START

Witness: Mike Morgan, START



OFFICIAL PHOTOGRAPH No. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

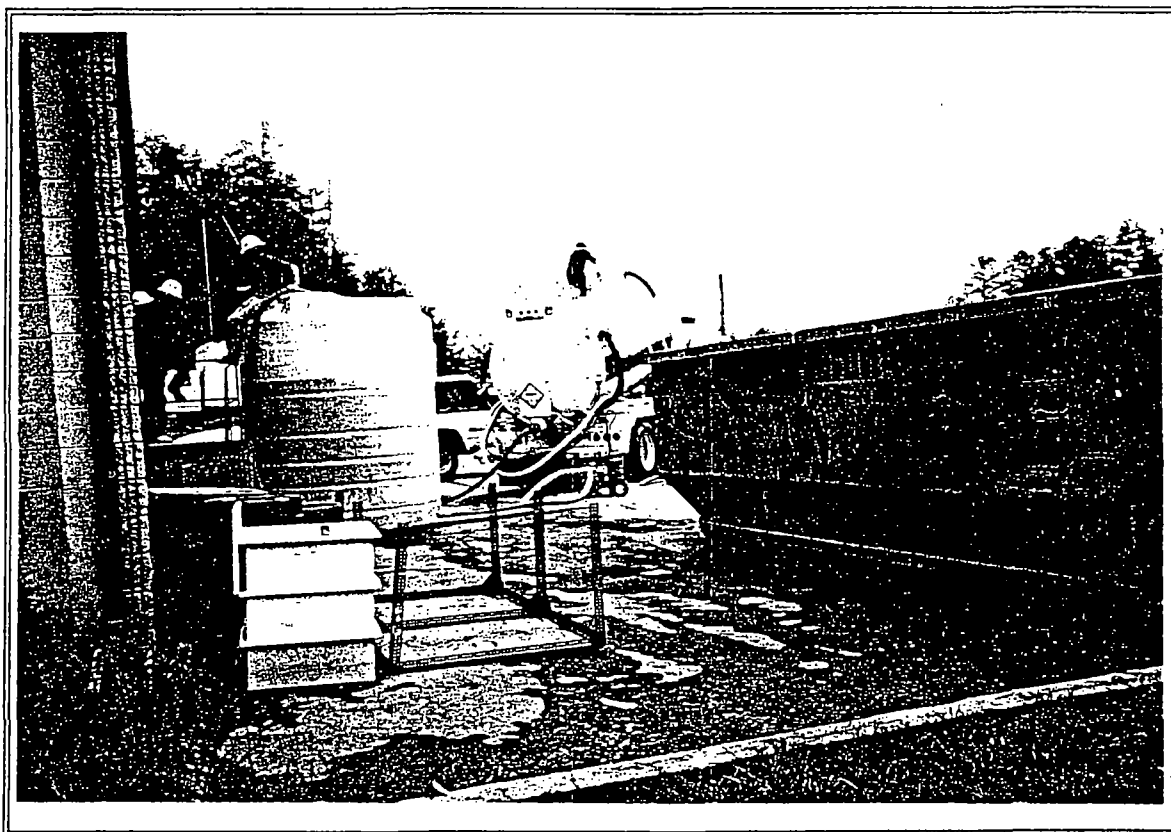
Subject: Culvert on Hickson property; samples CW-SD-01, -02, and -03 were collected from this area on May 11, 1999

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: West

TDD Number: 04-9905-0002 **Date:** May 6, 1999

Photographer: Charles Berry, START **Witness:** Mike Morgan, START



OFFICIAL PHOTOGRAPH No. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Hickson Timber contractor, Fisher Industries, pumping contents of vacuum truck into poly tank

Location: Koppers Court Release
Conley, Dekalb County, Georgia

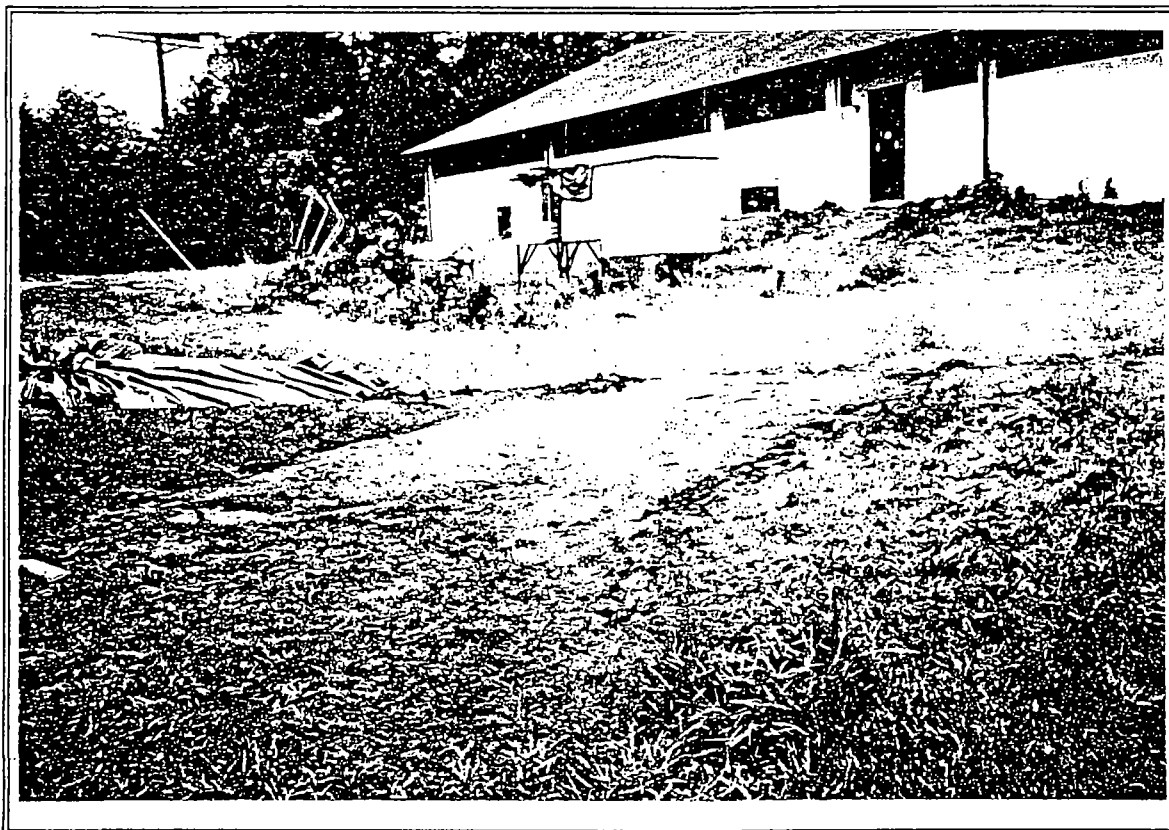
Orientation: East

TDD Number: 04-9905-0002

Date: May 7, 1999

Photographer: Charles Berry, START

Witness: Francis Garcia, EPA



OFFICIAL PHOTOGRAPH No. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Area of dead grass showing garden hose and storage tank behind Chrome Wheel Concepts facility

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: East

TDD Number: 04-9905-0002

Date: May 7, 1999

Photographer: Charles Berry, START

Witness: Francis Garcia, EPA



OFFICIAL PHOTOGRAPH No. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: IT excavating tarped area

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: West

TDD Number: 04-9905-0002

Date: May 7, 1999

Photographer: Charles Berry, START

Witness: Francis Garcia, EPA



OFFICIAL PHOTOGRAPH No. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Excavated area showing green leachate staining

Location: Koppers Court Release
Conley, Dekalb County, Georgia

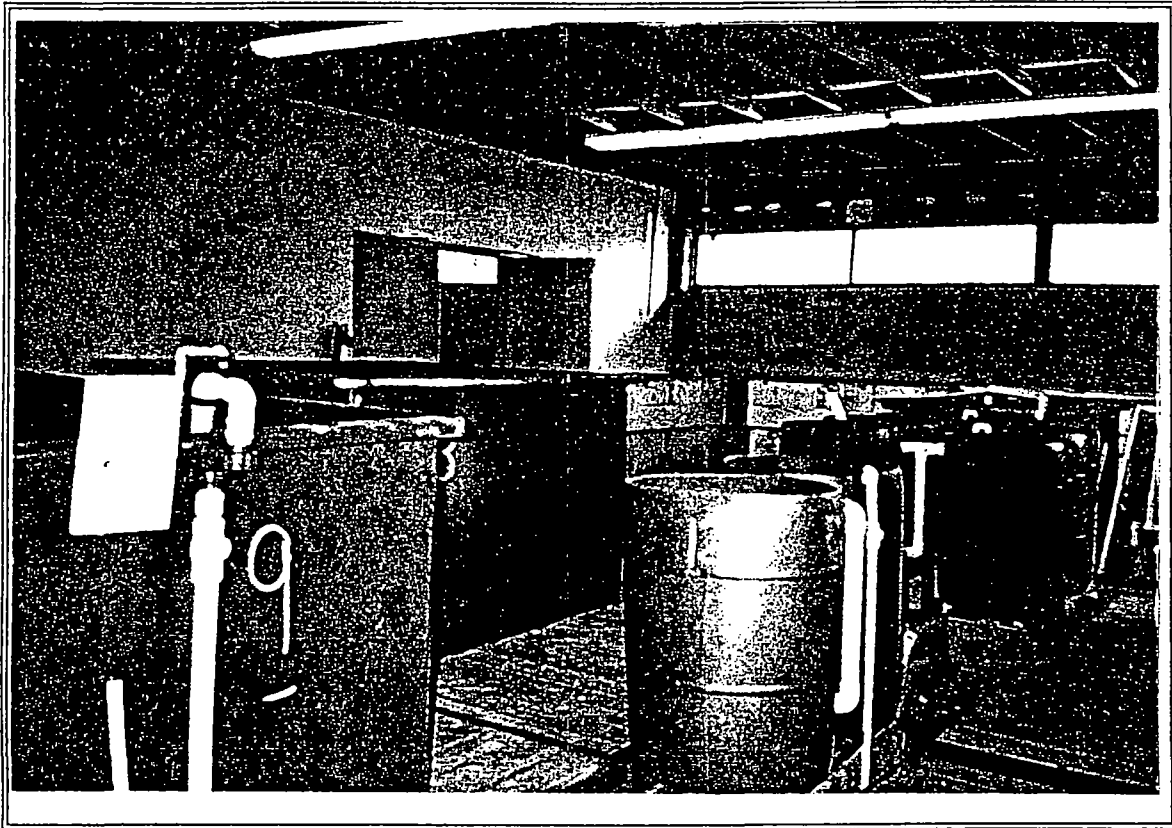
Orientation: West

TDD Number: 04-9905-0002

Date: May 7, 1999

Photographer: Charles Berry, START

Witness: Francis Garcia, EPA



OFFICIAL PHOTOGRAPH No. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Vat room of Chrome Wheel facility

Location: Koppers Court Release
Conley, Dekalb County, Georgia

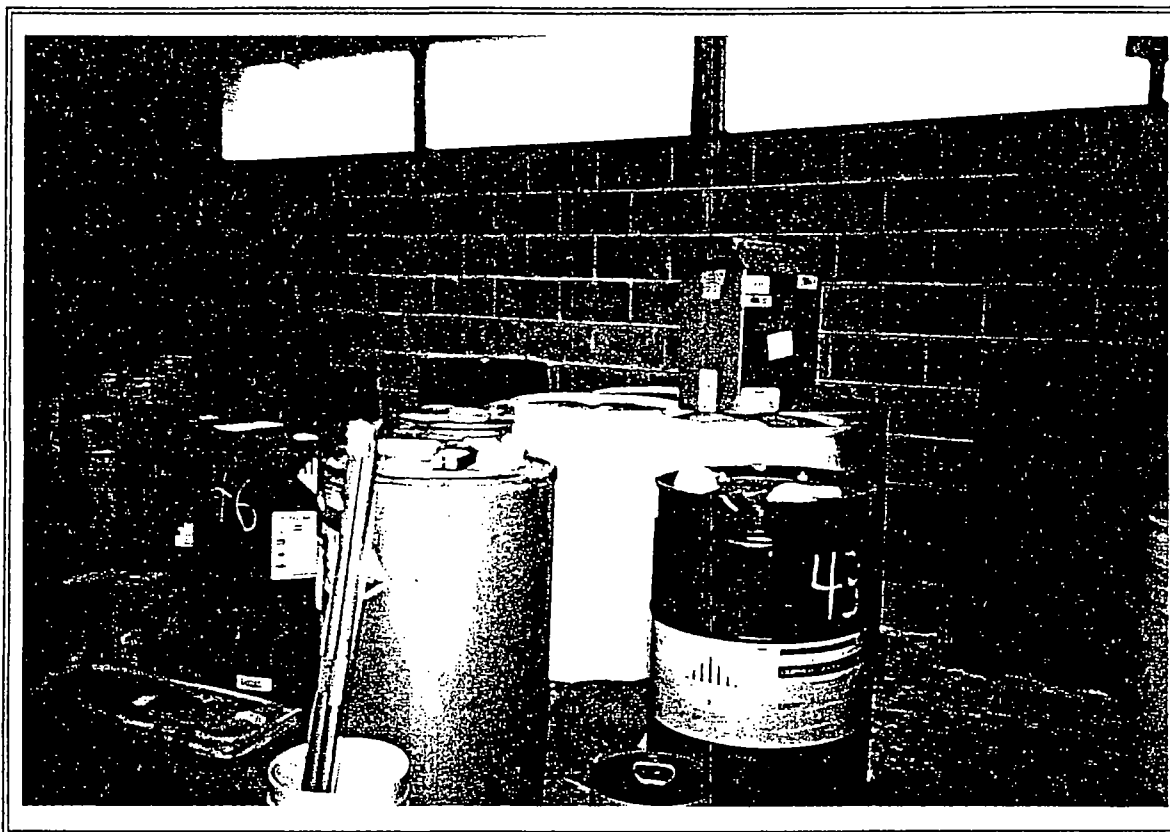
Orientation: East

TDD Number: 04-9905-0002

Date: May 8, 1999

Photographer: Mike Morgan, START

Witness: Charles Berry, START



OFFICIAL PHOTOGRAPH No. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

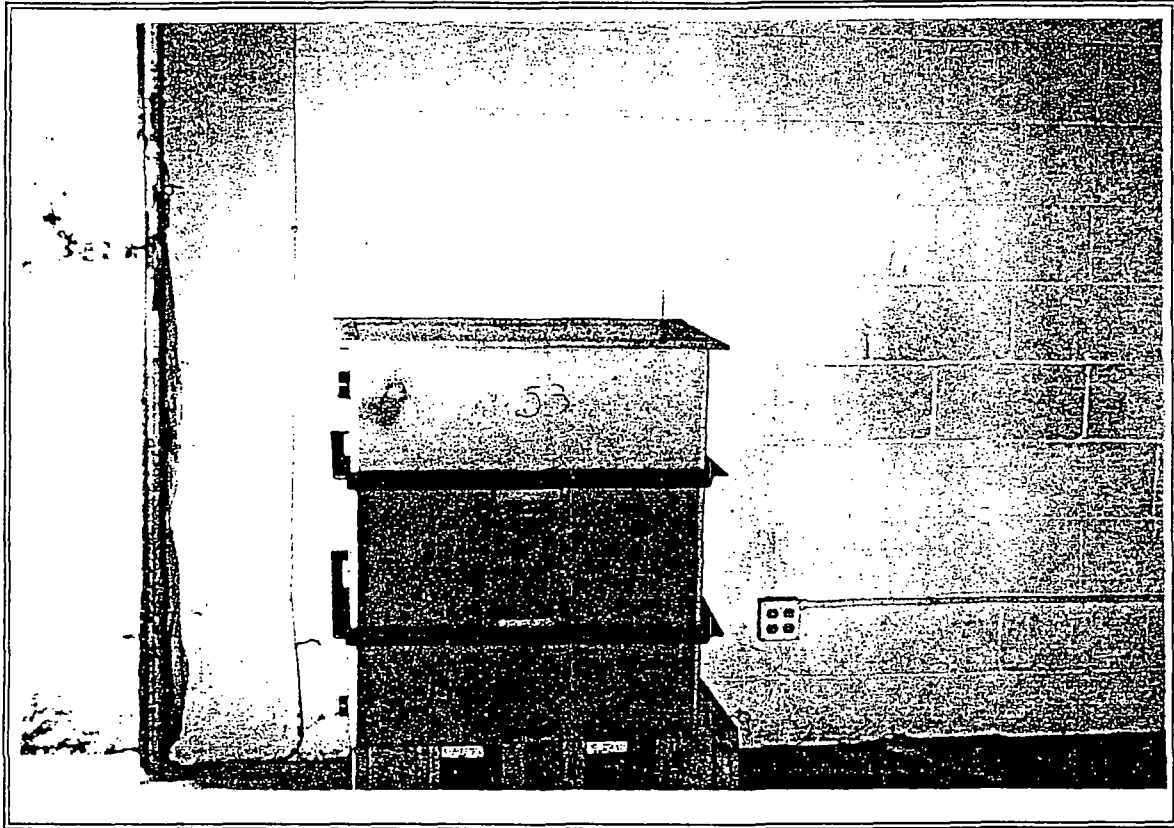
Subject: Drums stored in facility; samples CW-W-02 and CW-W-03 were collected from drums 45 and 49, respectively

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: West

TDD Number: 04-9905-0002 Date: May 8, 1999

Photographer: Mike Morgan, START Witness: Charles Berry, START



OFFICIAL PHOTOGRAPH No. 13
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject: Sample CW-W-07 collected from vat 53

Location: Koppers Court Release
Conley, Dekalb County, Georgia

Orientation: North

TDD Number: 04-9905-0002

Date: May 8, 1999

Photographer: Mike Morgan, START

Witness: Francis Garcia, START

APPENDIX C
LOGBOOK NOTES
(17 Sheets)

MEASUREMENT CONVERSIONS

INCH CM

IF YOU KNOW MULTIPLY TO FIND
BY

LENGTH

Inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters
miles	1.609	kilometers
millimeters	0.039	inches
centimeters	0.393	inches
meters	3.280	feet
meters	1.093	yards
kilometers	0.621	miles

WEIGHT

ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds

VOLUME

fluid ounces	29.573	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons (U.S.)	3.785	liters
milliliters	0.033	fluid ounces
liters	1.056	quarts
liters	0.264	gallons (U.S.)

TEMPERATURE

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times .555$$

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$$

Inches	Decimals of foot	Milli-meters
1/16	.0052	1.5875
1/8	.0104	3.1750
3/16	.0156	4.7625
1/4	.0208	6.3500
5/16	.0260	7.9350

3/8	.0313	8.5250
1/2	.0417	12.700
5/8	.0521	15.875
3/4	.0625	19.050
7/8	.0729	22.225

1"	.0833	25.400
2"	.1667	50.800
3"	.2500	76.200
4"	.3333	101.60
5"	.4167	127.00

6"	.5000	152.40
7"	.5833	177.80
8"	.6667	203.20
9"	.7500	228.60
10"	.8333	254.00
11"	.9167	279.40
1 foot	1.0000	304.80

04-S-0402
LEGAL DOCUMENT
DO NOT DESTROY

"Rite in the Rain"
ALL-WEATHER WRITING PAPER



Name Chrome Wheel Concepts ER

Address Hoppers Ct

Phone _____

Project OSC - Frank Garcia (404) 561 8763

START PM Chuck Berry (770) 717 2338

IT 1st PM Scott Lyle (770) 787-3834
Go

"Rite in the Rain" - a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98424-1017 USA

www.riteintherain.com

[illegible]

1700 START departs. Noncross

1750 START arrives and is asked by OSC
to pull water samples

2 North

Above photos were taken approx. 56 yards SW. of main bldg.

1800 START berry pulp samples from drainage culvert approx. 50 yards SW of main bldg. Samples labeled CW1SW

1810 START pulls water samples from ditch approx. 20ft from sample point ~~EW-25~~ (North of EW-25). Labeled samples EW-25^{SW} (see diagram page 3)

820 Photo 3 Orient: S, Showing sample
point ~~SW~~ SW-CW-SW-01.

1821 Photo 4 Orient. N, drainage ditch showing flow of chromic acid.

1823 START Berry returns to collect
soil sample CWS01 next to CWS02.
Mike Morgan 5/5/99

[illegible]

1700 START departs Norcross

1750 START arrives and is asked by OSC to pull water samples.

Above photos were taken approx. 50 yards SW. of main bldg.

1800 START berry pulp samples from
drainage culvert approx. 50 yards SW
of main bldg. Samples labeled ~~SW~~^{cur} ~~SW~~^{sw}

1810 START pulls water samples from ditch, approx. 20ft from sample point ~~EW-1 SW~~^{EW-1 SW} (North of ~~EW-1 SW~~^{EW-1 SW}). Labeled samples ~~EW-1 SW~~^{EW-1 SW} (see diagram page 3)

820 Photo 3 Orient: S, Showing sample
point ~~EW~~ SW. CW-SW-01.

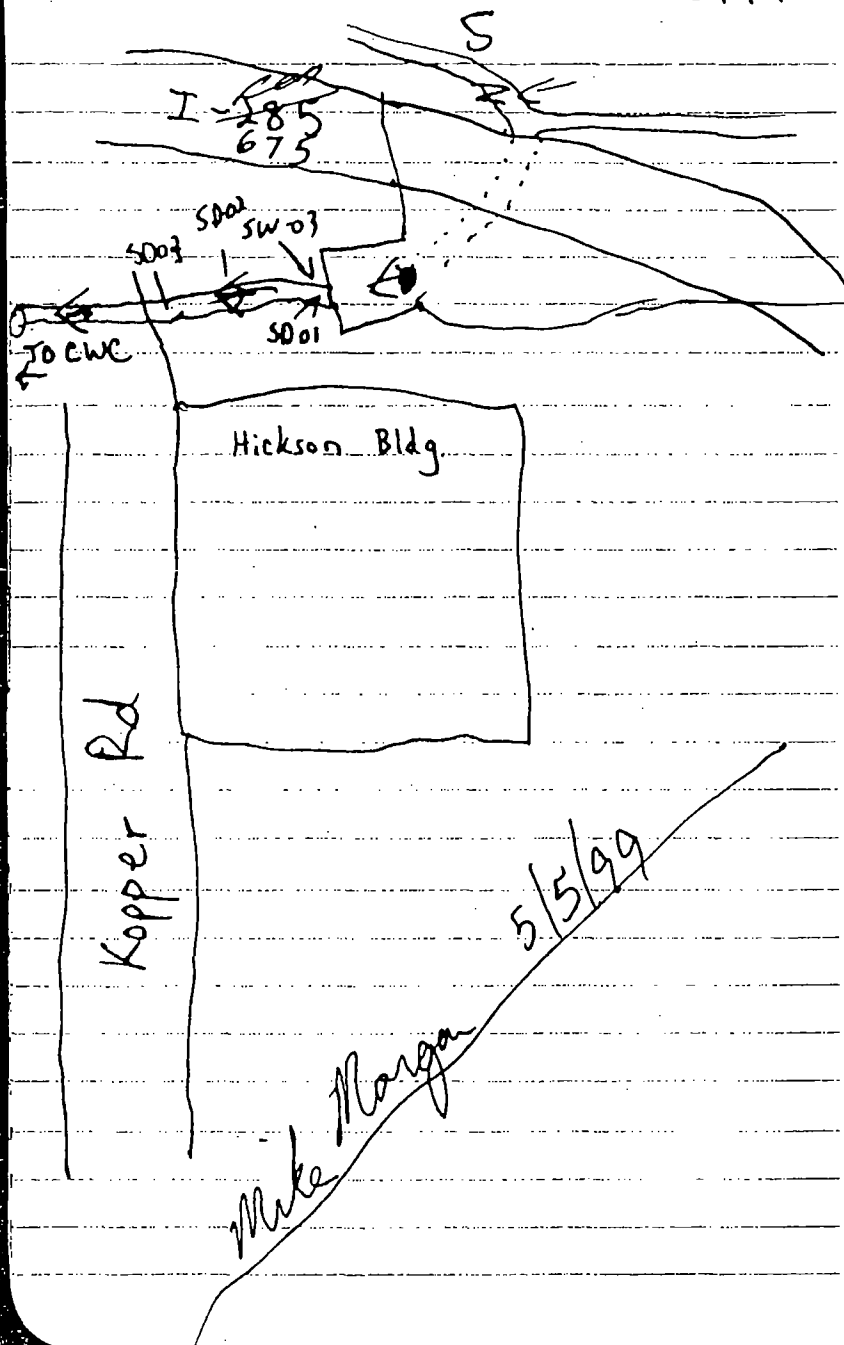
1821 Photo 4 Orient. N, drainage ditch showing flow of chromic acid.

1823 START Berry returns to collect soil sample CWS501 next to CWS402.

Mike Morgan 5/5/99

CWC site

5/5/99



- 1. Chrome Wheel Concepts 5/5/99
- 1956 OSC Garcia and START Berry discuss sampling points on east side of Kopper avenue.
- 2000 OSC Garcia wants START to take sed samples tomorrow. Getting too dark tonight.
- START begins packing up equip.
- 2025 START meets OSC Garcia at CWC, Inc.
- 2030 ~~an~~ ERRS crew is putting booms in place and sorbents at initial point by CWC bldg. OSC Garcia asks START to return to site between 9:00+9:30 on 5/6/99.
- 2045 START off site. Will bag/tag/preserve samples @ office tonight.
- 2125 START breaks down on interstate. Equip. man. called will get wreck. START unloads equip from vehicle and begins filling out tags.
- 2200 START arrives at Norcross office with equip + samples via equip. managers private vehicle. Begin bagging + tagging samples for overnight storage.

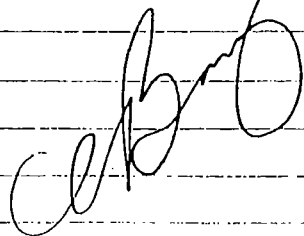
Carl King Mike Morgan

5-5-99

2400 START places samples in coolers
+ custody seals coolers. Coolers are
then placed in a START vehicle, EPA 287,
for overnight storage.

5-6-99

0030 START Berry off for day. START
Morgan left office at 0000.



5-6-99

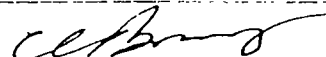
0845 START load vehicle + departs
START office.

Weather: 65°, HEAVY Thunderstorms.

1000 START arrives on site. START Berry
mob'd from Narcosis office. START Morgan
mob'd directly from home, and
arrived on site @ 0930.

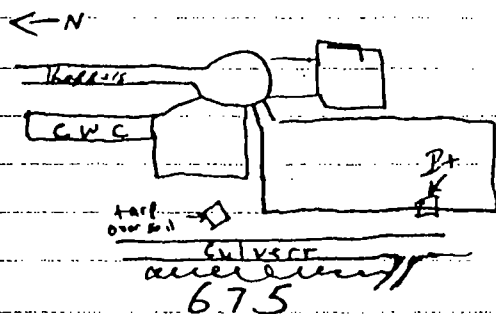
- OSC Garcia has instructed OH to wait
out rain. OH cannot work in lightning.
OH has brought a 31K poly tank,
VAC truck, + sorbent booms, And
a roll-off dump truck.
- The drainage from the Facility's
parking lot has been blocked off
with a sorbent boom wrapped in
plastic. Approximately 6" of H₂O
trapped behind it.

1030: Still Raining. OH RPM Scott Lyle
informs START that the southern
stretch of the east culvert, i.e. the
portion below ⁶⁰⁰ South of the
confluence on the east side, the part
away from the facility, is completely
flooded out. This has probably washed out
the culvert on the west side of 675.



5-6-99

1045 Break in rain. OH dismantling trace
in The Ironpeddlers parking lot



1050 John Hill, EPD CID arrives on site. 404)362-4917

Note: SCOTT Lyle works for IT. OAM
is now IT.

196- Chamber Tucker 65 right + left
85 access Road 1/2 mile on right
AES 3781 Presidential Parkway.

1100 START + OSC Garcia tour
E main drainage ditch from
Facility to confluence.
Large amount of H₂O flowing
culvert is dammed up by debris.
Still raining.

1140 OSC Garcia instructs IT to begin
pumping water + removing debris from
culvert.

1200 START Morgan off site to deliver

[Signature]

5-6-99

START'S Samples to AES. START

Berry retains split + samples on site.

Awaiting determination of whom will
receive samples - EPA or EPD?

~~1230~~ ¹²³⁰ ~~IT~~ pumping liquid into 3K gal poly tank

- START Berry remains on site for documentation

1230 ^{Hickory Gap} ~~IT~~ collected ~ 1K gal of dark
liquid (high organic content from
mud)

1245 START at lunch

1315 START back on site. OSC wants

IT to excavate soil 1st when
track hoe arrives. IT on lunch now.

1330 IT back at work. Absorbent pads
placed down @ 2300 lbs last 15 hrs
have been removed. Debris has been
raked + shoveled out of culvert.

Now removing debris in trash bags
and cutting limbs back to
make way for track hoe.

1400 Allen Whitt, IT on site.

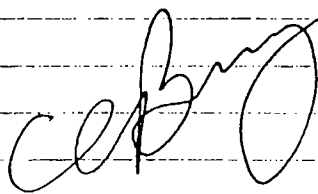
1420 START + IT RPM + Allen Whitt on
W. side culvert. Flow has increased
to 1-2 cfs from yesterday's
no-flow.

[Signature]

5-6-99

Photolog

- | # | time | sub; | P O W |
|----|------|---|-----------|
| 10 | 1340 | N. Flowing culvert on E. side of 675 | CLB S SL |
| 11 | 1340 | S. Flowing (from facility) culvert on E. Side 675 | CLB N SL |
| 12 | 1355 | IT clearing trail for track hoe | CLB N SL |
| 13 | 1420 | Increased flow on W side 675 | CLB S SL |
| 14 | 1430 | Tarped area w/ vat in background and garden hose | CLB N SL |
| 15 | 1740 | IT excavating to allow for culvert access | CLB W FG |
| 16 | 1745 | Area under tarp excavated to 1 foot | CLB SW FG |
| 17 | 1915 | Excavated soil covered for overnight storage | CLB W FG |



5-6-99

1430 Scott Robinson, GA EPD

Returns to site.

1500 IT track hoe arrives on site.

START collecting CW-SS-02 in area of tarped soil behind CW facility. Spt corners + middle. 2 jars taken. EPD declines to split this sample, but will take others.

- There is a wide area of yellowed grass in the middle of tarped area. A garden hose is under tarp.

- Suspicion is that operator used hose to drain outside vat behind building ~~had~~ causing the release.

1530 EPD collects own sample from yellowed grass area.

1550 START + EPD collect sample out of garden hose. Contents of hose are a dark brown/red liquid ~ 1 liter of it. START/SED split sample CW-W-01.

IT begins excavating 6" of tarped area per OSC Garcia's instructions.

1600 OSC Garcia states he wants waste from hose analyzed.

CLB

10

5-6-99

1630 START bagging + tagging samples

1640 IT securing site for the night. CES

OSC Garcia instructs IT to

dig tarped area to a depth of 1 foot.

IT begins vacuuming liquid from
confluence area.

11 1700 Roll off container is full.

IT begins stockpiling soil on
boomed tarp behind parking lot.

1730 IT finishes excavating tarped area.

13 Track hoe now knocking down ties
to access culvert. This soil,
probably impacted and will be disposed.

14 LATE ENTRY

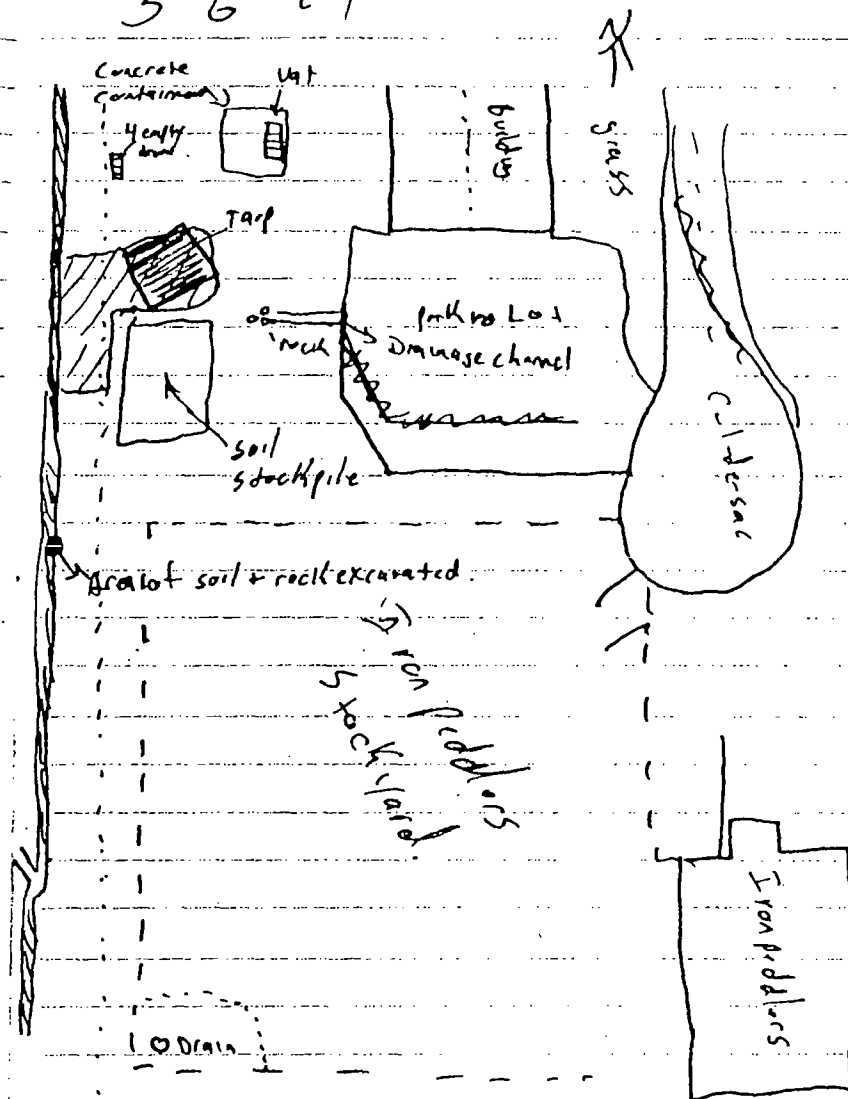
15 1650 START splits samples with GLEP
K. Scott Robinson. COC + Recorder
Samples signed.

16 1750 OSC Garcia asks IT to excavate

edge of culvert up to top of
bank 1 foot deep along
approximately 25' of the culvert
below + downstream of the
tarped area.1815 IT finishes excavating area
near tarp. Now excavating

culvert

5-6-99



5-6-98

1815 CONT: small area of soil & rock
in culvert just S. of propertyline
with Iron Peddler.

1845 Small area of soil & rock removed, IT
covering stockpile and securing
equipment.

- Security has been on site since
1700 and waiting since.

1910 IT pumping out vac truck.

1915 All personnel off site. START will
secure samples under seal in the
vehicle overnight, and deliver
them to the lab tomorrow morning at
8:30. Will then mob to site
afterwards as per OSC Garcia.

- Gate to Iron Peddler's yard locked
by OSC Garcia before departure.

2005 START at Norcross office. Will unload
vehicle and seal samples in cooler
inside locked vehicle.

2020 START off for day

CEB

5-7-99

0820 START departs Norcross office for AES.

0855 Delivering samples to AES and departing
for site

0930 START arrives at site. IT on site.

Loading stockpiled soil onto new
roll off.

0945 START, EPA, IT PM's walk down to
confluence. Copious runoff through
area. ~~Grout after confluence~~ ^{CEB}

- Culvert running under 675 estimated
at 100 gpm

- OSC Garcia: Wait to excavate until
sample CW-SS-01 data returned.

START will ask lab for preliminary
data to make this determination.

- Trackhoe will remain on site with
roll offs until final determination of
confluence area determined.

- If CW-SS-01 is hot, START will
resample. Thinking is that the rain
has probably flushed area out.

- START will take background sample
50 yds upstream of facility.

- START will take 2 confirmation samples
from excavated area

CEB

5-7-99

0945 cont: IT will handle all T&D sampling from roll offs.

WEATHER Showers + T'storms today.

High near 70 clearing late.

at 0800 - 0900 torrential downpours in area. Currently no rain.

1030 START ~~edit~~ Barry trans message for START MacLaren to contact lab concerning CW-SS-01, possibility of CW-SS-03, and ~~CW-SS-01~~ CW-SS-BAK (ground). Will page START Barry w SS-01 data.

Beginnings to rain again.

-IT continues to load 3rd roll off with excavated soil + trees.

LATE ENTRY

0945 - OSC Garcia indicated that, due to the amount of water flowing down the culvert from the facility, pressure washing the culvert would be unnecessary.

-START will collect CW-SS-03 from confluence area, but sample will not be delivered to lab.

1045 - Rain ends. IT pumping water from parking lot + rapped behind dam into culvert

CEB

5-7-99

1045 cont: below facility.

1100 START collects background sample, CW-SS-BAK, from beside culvert 80 yd N. of excavated area.

1115 START collects soil sample, CW-SS-03, to be sampled ~~at~~ ^{by} ~~CW~~ ^{CEB} analyzed if CW-SS-01 is hot.

1130 START filling out sample paperwork.

1200 START at lunch. Hickson VOC truck arrives on site to remove sludge from the bottom of their VOC truck. Will be added to our solid waste as per OSC Garcia.

1700 START on site. Spoke w/ START P. Madame while out. No info from lab yet.

LATE ENTRY

1115 GA EPD Scott Robinson on site.

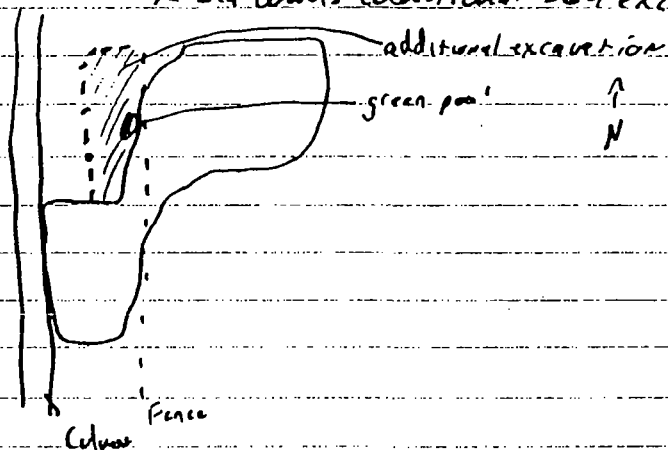
1315 P. Gaynor + one other rep. of EPD Haz Waste Division on site

1335 OSC Garcia delivers written access agreement to David Framer of Iron Addlers, Inc. Will supplement oral agreement given on 5-5-99.

CEB

5-7-99

1345 while draining excavated area, IT
 notices standing pool of greenish water
 on west side of excavated area. OSC
 Garcia wants additional soil excavated



1355

1455 David Freeman of Iron Peddlers returns

Ceo

Signed Access Agreement to OSC Garcia

1420 IT rinsing out VAC truck

Analytic results: Cr = 2900 ppm

for CW-SS-01, CW-SS-03 will

be delivered to lab as per OSC Garcia today.

Cr TCLP for SS-01 was ~~0.47~~ ^{0.47} ppm

~~4.66~~ ^{4.66} arfc at 5600 TCLP (0.1

CU = 230 ppm TCLP 12.9 ppm

Lab # is 770-457-8177

5-7-99

Photo 106

H	Time	Subj	P	O	W
18	1425	Add'l excavation	CLB	W	FG
19	1425	IT ^{for} rinsing vac truck	CLB	E	—

sampling Monday

PP metals

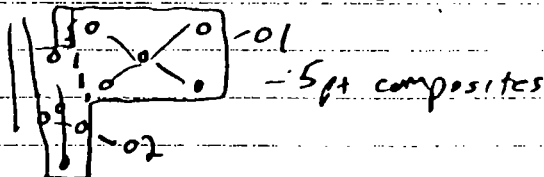
TCLP solids

pH

CN

1500 START collecting Confirmation samples

CW-CON-01 + CW-CON-02



1600 EPA + GA EPD MD agree to make

entry into building on Monday 5-10.

START will sample in lead B. 0900. No splits.

CLB

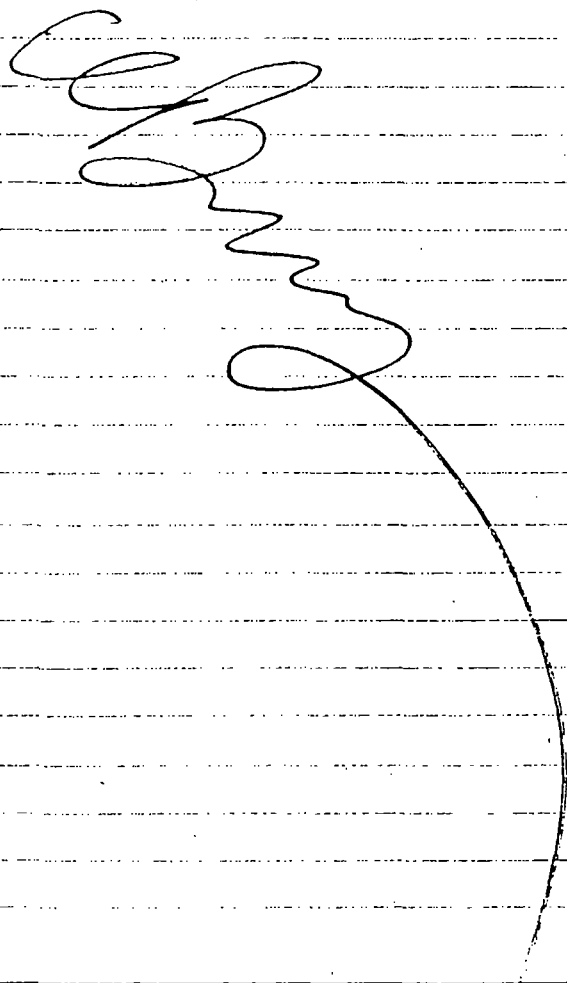
5-7-99

1620 START off site to deliver
samples to lab by 1730

1700 Samples delivered to lab

1730 START at office preparing for Monday

1800 START has prepared equipment for
Monday. Will arrive on site at 0900 am



CUB

~~5-8-99~~

5-10-99

0745 START at Norcross office loading
equipment. 3 STARTS will
mobilize today.

0820 START departs office for site

0900 START on site. EPA, EPD on site
waiting for locksmith. START

staging equipment.

0915 Work plan meeting with EPD.

EPD will make initial entry
and document undisturbed site. START
will follow. EPD must be present
during ALL sampling.

0930 START & EPA examining excavation.
Green color on bank. IT will
excavate further when return to
site.

START calibrating FID & CGE

0945 Locksmith on site.

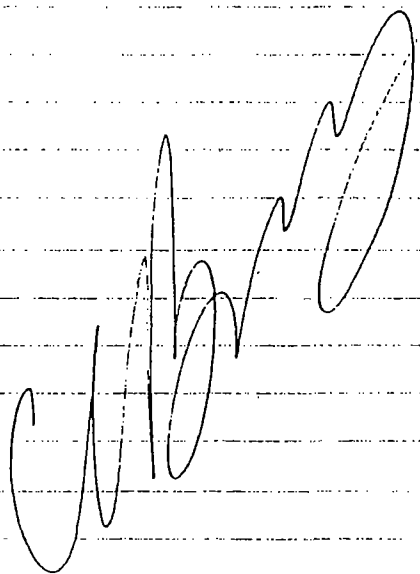
~~0950 EPD entering building.~~ CUB

0950 EPD entering building

1005 EPD out of building. Discuss
plan with START & EPA. START
will enter with Level B & H1
air monitoring gear CGE & FID. Gas
counter, Digisec tubes

PHOTOLOG 5-10-99

#	time	subj.	P	O	W
20	1445	Locksmith opening door	CB	N	PB
21	0950	Green soil in excavator pit	CB	W	FG
22	1520	Vat 53	MEM	N	FG
23	1520	Area of drums sampled	MEM	W	FG
24	1520	Area of drums and vats	MEM	E	FG



5-10-99

1045 START Berry and START Bhambra enter building in level B. Will investigate drums and vats.

1105 Berry & Bhambra exit hot zone.

- Jacob area at bottom of steps

- IT ON site.

- Investigation of vat/drum area
air monitoring showed no breathing hazards

- CFI NOVEL reading, O₂ near below 21%

- FID 2.5 ppm was highest reading, but only momentary. Constant background reading of 0.5 ppm both in & out of building.

- Draeger tube for HCN CN - less than 0.5 ppm

- START found ~10 vats and 11 drums with sampleable product. ~20.5 gal/containers of various ^{CS} suspected unused product in labeled containers.

- Some drums have Nickel chloride, sulfuric acid (technical) labels.

- START consults with osc. Sprain will degrade to level ^{CS} C for vat sampling. Level B for drums

CEB

5-10-99

1130 START will sample several vats per OSC Garcia as well as about 3 drums. OSC Garcia will enter building after lunch and delineate which vats & drums to sample.

- START at lunch, will return to site at 1300.

1300 START back at site. Waiting for EPD

1330 EPD on site. EPD/START discussing sampling strategies.

1345 START suiting up level 6 for sampling entry.

1430 START in hot zone. OSC Garcia designating containers to sample # 19, 28, 38, 53, 45, 49. 4 vats & 2 drums.

1445 Samples collected from drums ⁴⁸48 & 49.

1520 See photo log.

START completes sampling of vats: 19, 28, 38, & 53.

1530 EPD continues to take samples from every container.

- START exits hot zone. Begin decon & equipment clean/hood up. Sample paperwork.

1610 START off site to deliver samples

CEP

5-10-99

1610: comm. to AES

1650 Samples delivered to ~~AES~~ AES

1730 START back at Norcross Office.

Unloading equip from trucks.

No site ops tomorrow 5-11.

Ops will resume upon receipt of analytical. Samples delivered today have 3-day turnaround. START will inform OSC Garcia of any additional results as they are delivered to START.

CEP

5-11-99

Sample Summary

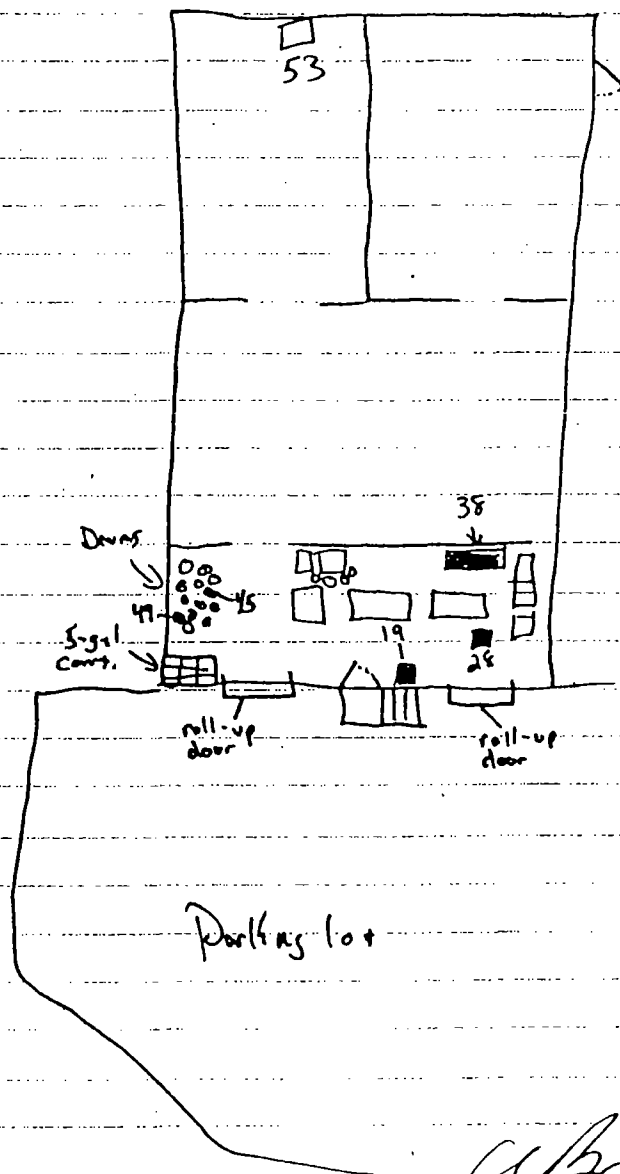
Sample	Date Collected	Medium	Split?	Location/Description
CW-SW-01	5-5	Surface water	Y	Grass field at confluence
CW-SW-02	5-5	Surface water	Y	Black pool at confluence
CW-SW-03	5-5	Surface water	Y	Culvert under 675
CW-SD-01	5-5	Sediment	Y	Culvert at 675
CW-SD-02	5-5	Sediment	Y	Culvert 1/2 way from 675 to Koppers Rd on Harker property
CW-SD-03	5-5	Sediment	Y	Hickson property, culvert at Koppers Rd
CW-SS-01	5-5	Soil		
CW-SS-01	5-5	Soil	Y	Confluence
CW-SS-02	5-6	Soil	N +	Composite from tarped area
CW-SS-03	5-7	Soil	N	Confluence after rain
CW-SS-BAX	5-7	Soil	N	Background Soil Not site
CW-COV-01	5-7	Soil	N	Confirmation tarped area
CW-COV-02	5-7	Soil	N	Confirmation next to culvert
CW-W-01	5-6	Waste	N +	Contents of garden hose
CW-W-02	5-10	Waste	N +	Drum 45
CW-W-03	5-10	Waste	N +	Drum 49
CW-W-04	5-10	Waste	N +	V4+19
CW-W-05	5-10	Waste	N +	V4+28
CW-W-06	5-10	Waste	N +	V4+38
CW-W-07	5-10	Waste	N +	V4+53

* Additionally sampled by GA SPD. SPD collected own sample.

Calvin

5-11-99

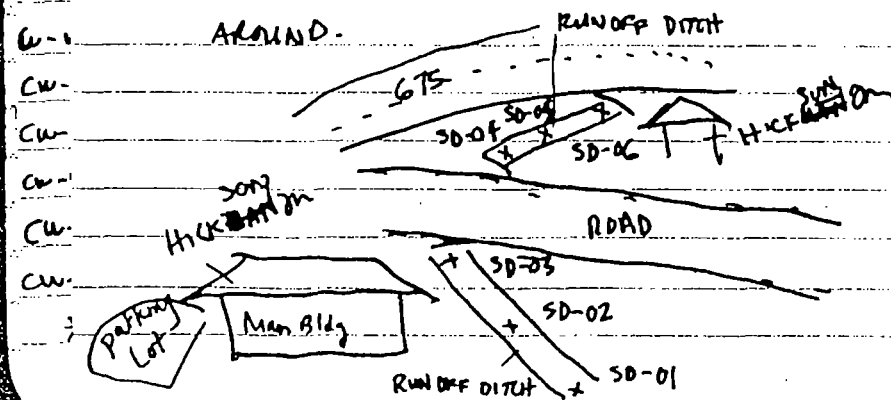
Diagram of building



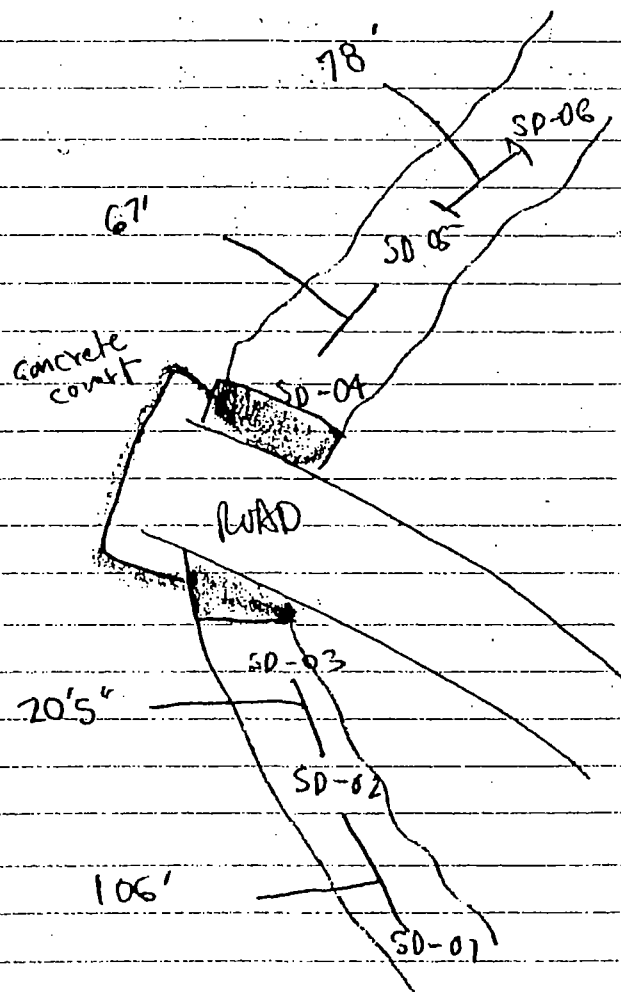
TUESDAY, MAY 18, 1999

0940 JOHN WRIGHT ON SITE.
 SIGNED IN ~~FOR~~ SECURITY.
 1000 FRANK GARCIA ON SITE. (OSC)
 OSC & START TOUR FACILITY. OSC
 BRIEFS START ON PREVIOUS SITE
 ACTIVITIES.

1025 OSC & START GO TO HICKSON
 COMPANY TO SAMPLE RUN OFF FROM
 CHROME WHEEL PLATING.
 - OSC TASKED START TO TAKE 6
 SEDIMENT SAMPLES FOR TWO
 JOINED RUN OFF DITCHES, ON THE
 HICKMAN PROPERTIES.
 1100 OSC TASKED START TO SPLIT SAMPLES
 W/ HICKMAN (CINDY STORELLI).
 - AFTER SAMPLING START W/ TAKE
 SAMPLES TO THE LAB W/ 24 HOUR TURN
 AROUND.



S	D	M	Split	LOCATION
CW-SD-01	5/18/99	SEDIMENT	YES	SUB DIAGRAM
CW-SD-02	5/18/99	SEDIMENT	YES	
CW-SD-03	5/18/99	SEDIMENT	YES	
CW-SD-04	5/18/99	SEDIMENT	YES	
CW-SD-05	5/18/99	SEDIMENT	YES	
CW-SD-06	5/18/99	SEDIMENT	YES	

[illegible]

7-6-99

START PM Berry received voice mail message from OSC Garcia stating that GA EPD is taking the lead on the site, and START should go ahead and begin the letter report and TDD close out as no further START action is necessary.

APPENDIX D
ANALYTICAL REPORT
(9 Sheets)

MEMORANDUM

TO: Charles Berry
Superfund Technical Assessment and Response Team (START) Project Manager

FROM: Paula MacLaren
START Quality Assurance Officer

THROUGH: R. Steve Pierce
START Leader, U.S. Environmental Protection Agency (EPA) Region 4

SUBJECT: Koppers Court Release Emergency Response Analytical Data
Technical Direction Document No. 04-9905-0003

DATE: June 4, 1999

Analytical Environmental Services, Inc., analyzed samples collected on May 5, 1999, at the Koppers Court Release Emergency Response in Conley, Georgia. The samples were analyzed for the following parameters:

- Priority pollutant metals
- Total cyanide
- pH

The analytical data packages were received within the required 24-hour and 1-week turnaround time periods. The following quality control samples were analyzed:

- Priority pollutant metal analysis:
- Total cyanide analysis:
- pH analysis:

A summary of the sample data is presented in Tables 1, 2, and 3.

TABLE 1

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Waste Samples

Parameter	Sample Identification, Date, and Location						
	CW-W-01	CW-W-02	CW-W-03	CW-W-04	CW-W-05	CW-W-06	CW-W-07
	05/06/99	05/10/99	05/10/99	05/10/99	05/10/99	05/10/99	05/10/99
	Contents of garden hose	Drum 45	Drum 49	Vat 19	Vat 28	Vat 38	Vat 53
Priority Pollutant Metal	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Antimony	1,400	ND	ND	ND	5.7	ND	ND
Arsenic	ND	ND	ND	ND	ND	ND	ND
Beryllium	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND
Chromium	175,000	1.2	1.1	550	9.1	3.4	7.6
Copper	148	ND	ND	ND	4,700	2	320
Lead	61.8	ND	ND	4	66	ND	ND
Mercury	ND	ND	ND	ND	ND	ND	ND
Nickel	38.6	18	ND	ND	13,000	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND
Thallium	24.3	ND	ND	ND	ND	ND	ND
Zinc	86.4	ND	ND	ND	24,000	ND	6.76.7
General Chemistry							
Total cyanide (mg/kg)	0.05 ¹	ND	ND	ND	10,300	1.3	ND
pH	0.04	< 1	< 1	1.5	11	9	< 1

Notes: < Less than
 mg/kg Milligram per kilogram
 mg/L Milligram per liter
 ND Not detected
 1 Milligram per liter

Analytical Environmental Services, Inc., performed the sample analyses.

TABLE 2

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Soil Samples

Parameter	Sample Identification, Date, and Location					
	CW-SS-01	CW-SS-02	CW-SS-03	CW-SS-BAK	CW-CON-01	CW-CON-02
	05/05/99	05/06/99	05/07/99	05/07/99	05/07/99	05/07/99
	N/A	Under tarp behind building	Confluence	50 yards upstream of facility	Tarped area excavated	Additional excavated area
Priority Pollutant Metal (mg/kg)						
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	ND	ND	ND
Beryllium	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND
Chromium	4,000	51	99	89	67	120
Copper	320	27	62	54	34	20
Lead	17	ND	23	ND	ND	7.8
Mercury	ND	ND	ND	ND	ND	ND
Nickel	430	830	71	110	94	210
Selenium	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND
Zinc	63	33	120	32	28	20
General Chemistry						
Total cyanide (mg/kg)	ND	ND	ND	ND	ND	ND
pH	4.36	5.29	7.04	5.93	6.54	5.33
TCLP Priority Pollutant Metal (mg/L)						
Antimony	ND	0.0309	0.0228	NA	0.0211	0.0245
Arsenic	ND	ND	ND	NA	ND	ND
Beryllium	ND	ND	ND	NA	ND	ND
Cadmium	ND	ND	ND	NA	ND	ND

TABLE 2 (continued)

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Soil Samples

Parameter	Sample Identification, Date, and Location					
	CW-SS-01	CW-SS-02	CW-SS-03	CW-SS-BAK	CW-CON-01	CW-CON-02
	05/05/99	05/06/99	05/07/99	05/07/99	05/07/99	05/07/99
	N/A	Under tarp behind building	Confluence	50 yards upstream of facility	Tarped area excavated	Additional excavated area
TCLP Priority Pollutant Metal (mg/L) (continued)						
Chromium	0.4	ND	0.012	NA	0.0115	ND
Copper	12.9	0.0222	0.0226	NA	0.25	0.0128
Lead	ND	ND	ND	NA	ND	0.0204
Mercury	ND	ND	ND	NA	ND	ND
Nickel	8.07	19.1	0.134	NA	1.58	5.92
Selenium	ND	ND	ND	NA	ND	ND
Silver	ND	ND	ND	NA	ND	ND
Thallium	ND	ND	ND	NA	ND	ND
Zinc	1.07	0.0419	0.528	NA	0.0621	0.0447

Notes: mg/kg Milligram per kilogram
 mg/L Milligram per liter
 NA Not analyzed
 N/A Not applicable
 ND Not detected
 TCLP Toxicity characteristic leaching procedure

Analytical Environmental Services, Inc., performed the sample analyses.

TABLE 3A

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Sediment Samples Collected on May 5, 1999

Parameter	Sample Identification		
	CW-SD-01	CW-SD-02	CW-SD-03
Priority Pollutant Metal (mg/kg)			
Antimony	ND	ND	ND
Arsenic	140	82	64
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND
Chromium	330	260	130
Copper	680	570	890
Lead	25	ND	ND
Mercury	0.191	ND	ND
Nickel	420	310	420
Selenium	ND	ND	ND
Silver	ND	ND	ND
Thallium	ND	ND	ND
Zinc	150	72	87
General Chemistry			
Total cyanide (mg/kg)	ND	3.6	ND
pH	5.28	3.87	4.78
TCEP Priority Pollutant Metal (mg/L)			
Antimony	0.0232	ND	0.0221
Arsenic	0.0259	ND	ND
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND

TABLE 3A (continued)

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Sediment Samples Collected on May 5, 1999

Parameter	Sample Identification		
	CW-SD-01	CW-SD-02	CW-SD-03
TCLP Priority Pollutant Metal (mg/L) (continued)			
Chromium	1.25	45.6	0.422
Copper	6.57	4	13
Lead	ND	ND	ND
Mercury	ND	ND	ND
Nickel	7.9	14.5	8.15
Selenium	ND	ND	ND
Silver	ND	ND	ND
Thallium	ND	ND	ND
Zinc	1.41	0.447	1.08

Notes: mg/kg Milligram per kilogram
 mg/L Milligram per liter
 CW Custom Wheel Concepts
 ND Not detected
 SD Sediment
 TCLP Toxicity characteristic leaching procedure

Analytical Environmental Services, Inc., performed the sample analyses.

TABLE 3B

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Sediment Samples Collected on May 18, 1999

Parameter	Sample Identification					
	SD-01	SD-02	SD-03	SD-04	SD-05	SD-06
Priority Pollutant Metal (mg/kg)						
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	23.6	125	307	111	64.9	10.4
Beryllium	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND
Chromium	94.7	77.1	186	189	311	630
Copper	28.3	372	351	1,680	493	2,820
Lead	10.9	ND	12.1	9.17	7.17	12
Mercury	0.121	0.179	0.406	0.734	0.458	0.749
Nickel	63.2	363	441	787	531	1,680
Selenium	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND
Thallium	ND	ND	ND	ND	ND	ND
Zinc	24.6	63.7	216	142	69.4	125
General Chemistry						
Total cyanide (mg/kg)	ND	ND	ND	ND	ND	ND
pH	6.95	6.47	7.14	5.45	4.61	4.94

Notes: mg/kg Milligram per kilogram
 ND Not detected
 SD Sediment

Analytical Environmental Services, Inc., performed the sample analyses.

TABLE 4

**KOPPERS COURT RELEASE EMERGENCY RESPONSE
ANALYTICAL DATA**

Water Samples Collected on May 5, 1999

Parameter	Sample Identification		
	CW-SW-01	CW-SW-02	CW-SW-03
Priority Pollutant Metal (mg/L)			
Antimony	0.913	ND	ND
Arsenic	ND	1.96	ND
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND
Chromium	9.1	2,430	253
Copper	739	157	465
Lead	0.351	ND	ND
Mercury	0.00065	0.001	0.00086
Nickel	2.480	1,140	498
Selenium	ND	ND	ND
Silver	ND	ND	ND
Thallium	ND	ND	ND
Zinc	2.19	3.11	28.4
General Chemistry			
Total cyanide (mg/L)	0.01	0.057	ND
pH	2.79	3.66	3.72

Notes: mg/L Milligram per liter
 CW Custom Wheel Concepts
 ND Not detected
 SW Surface water

Analytical Environmental Services, Inc., performed the sample analyses.

REFERENCE 12

NATIONAL FLOOD INSURANCE PROGRA

FIRM

FLOOD INSURANCE RATE MAP

DE KALB COUNTY,
GEORGIA
(UNINCORPORATED AREAS)

PANEL 100 OF 150

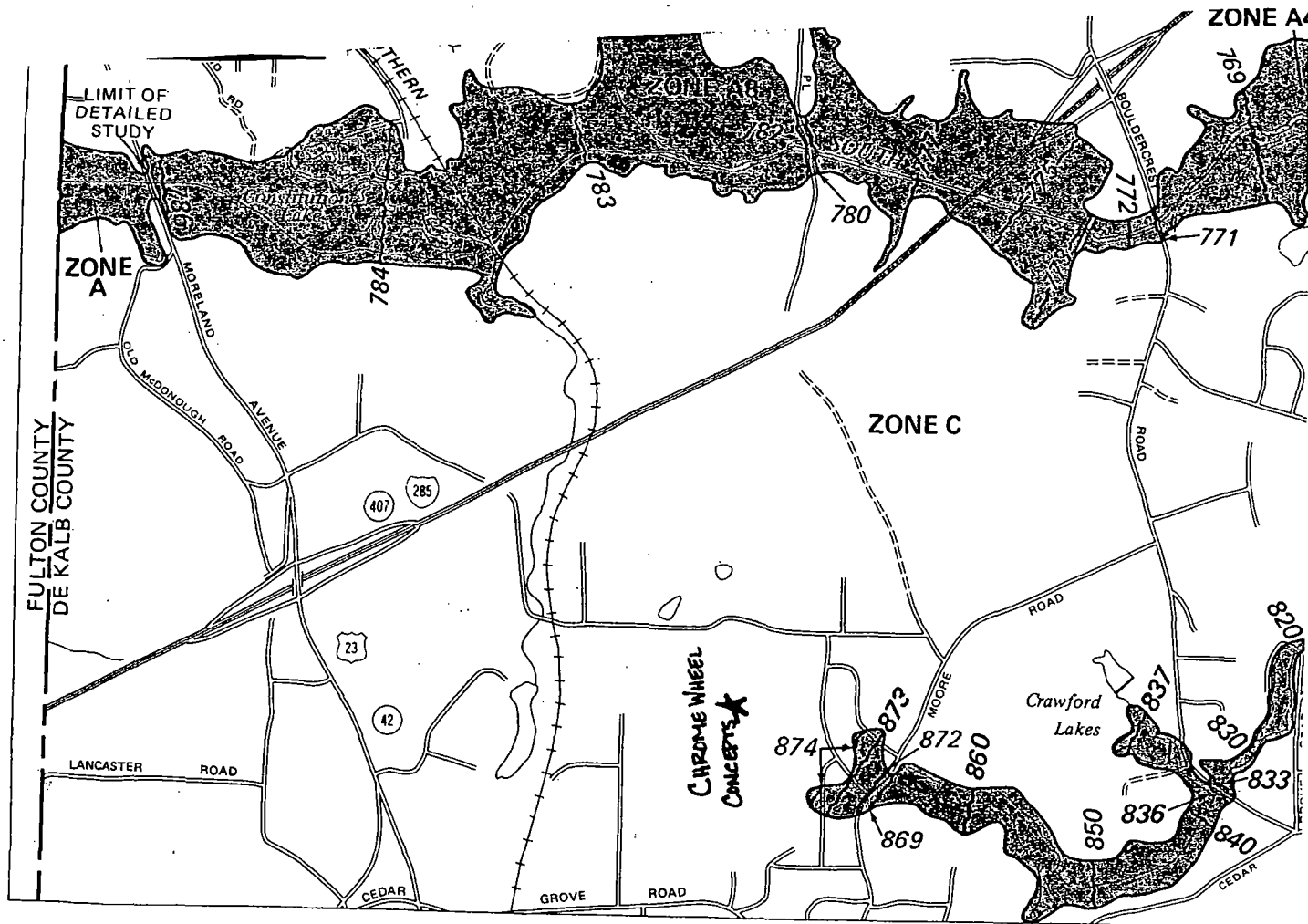
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
130065 0100 B

EFFECTIVE DATE:
MAY 15, 1980



U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION



APPENDIX A

OMB Approval Number: 2050-0095Approved for Use Through: 1/92***PA Scoresheets***Site Name: CHROME WHEEL CONCEPTSCERCLIS ID No.: GAR000012658Street Address: 4041 KOPPERS COURTCity/State/Zip: CONLEY, GA 30288Investigator: TERRI CROSBYAgency/Organization: GA EPDStreet Address: 205 BUTLER ST SECity/State/Zip: ATLANTA, GA 30334Date: SEPTEMBER 2001

INSTRUCTIONS FOR SCORESHEETS

Introduction

This scoresheets package functions as a self-contained workbook providing all of the basic tools to apply collected data and calculate a PA score. Note that a computerized scoring tool, "PA-Score," is also available from EPA (Office of Solid Waste and Emergency Response, Directive 9345.1-11). The scoresheets provide space to:

- ! Record information collected during the PA
- ! Indicate references to support information
- ! Select and assign values ("scores") for factors
- ! Calculate pathway scores
- ! Calculate the site score

Do not enter values or scores in shaded areas of the scoresheets. You are encouraged to write notes on the scoresheets and especially on the Criteria Lists. On scoresheets with a reference column, indicate a number corresponding to attached sources of information or pages containing rationale for hypotheses; attach to the scoresheets a numbered list of these references. Evaluate all four pathways. Complete all Criteria Lists, scoresheets, and tables. Show calculations, as appropriate. If scoresheets are photocopy reproduced, copy and submit the numbered pages (right-side pages) only.

GENERAL INFORMATION

Site Description and Operational History: Briefly describe the site and its operating history. Provide the site name, owner/operator, type of facility and operations, size of property, active or inactive status, and years of waste generation. Summarize waste treatment, storage, or disposal activities that have or may have occurred at the site; note also if these activities are documented or alleged. Identify probable source types and prior spills. Summarize highlights of previous investigations.

Probable Substances of Concern: List hazardous substances that have or may have been stored, handled, or disposed at the site, based on your knowledge of site operations. Identify the sources to which the substances may be related. Summarize any existing analytical data concerning hazardous substances detected onsite, in releases from the site, or at targets.

GENERAL INFORMATION (continued)

Site Sketch: Prepare a sketch of the site (freehand is acceptable). Indicate all pertinent features of the site and nearby environs, including: waste sources, buildings, residences, access roads, parking areas, drainage patterns, water bodies, vegetation, wells, sensitive environments, etc.

GENERAL INFORMATION

Site Description and Operational History:

The Chrome Wheel Concepts site is located at 4041 Koppers Court and is located to the southeast of the city of Atlanta in Conley, Georgia. The geographic coordinates are 84°19'25" W longitude and 33°39'45" N latitude (Reference 1).

The total area of the Chrome Wheel Concepts site is approximately one acre. Access to the site is from Koppers Court. Koppers Court is oriented north-south and forms the eastern property boundary. Interstate 675 forms the western boundary; an industrial facility, Iron Peddlers, forms the southern boundary; and a wooded lot forms the northern property boundary to the Chrome Wheel Concepts site. Terek Green was the operator of the Chrome Wheel Concepts site. He was purchasing the property from George Tippen. Terek Green defaulted in payments to George Tippen and the property was in the middle of foreclosure.

Chrome Wheel Concepts was a manufacturing facility that performed decorative chrome plating on wheel accessories. The actual operations that took place at Chrome Wheel Concepts are unknown. Chrome Wheel Concepts according to Mr. Green ceased operation around the first quarter of 1999. However, on May 5, 1999, workers at a neighboring property noticed an unusual color in water running through a culvert at the rear of the property located at 1579 Koppers Road, Conley, Georgia. After discovering a suspected point source for the discoloration, the workers contacted the Emergency Response Program of the Georgia Environmental Protection Division. The suspected point source of the discoloration was the Chrome Wheel Concepts facility.

The Georgia Emergency Response Program contacted the Region 4 Emergency Response and Removal Branch for assistance in preventing the immediate threat of continuing migration of the contaminants to the surface water bodies. The response activities included sampling and removal actions. The Region 4 and the Georgia Emergency Response teams took samples of the waste found inside and outside of the building, of the soil, of the sediment, and of the surface water.

Probable Substances of Concern:

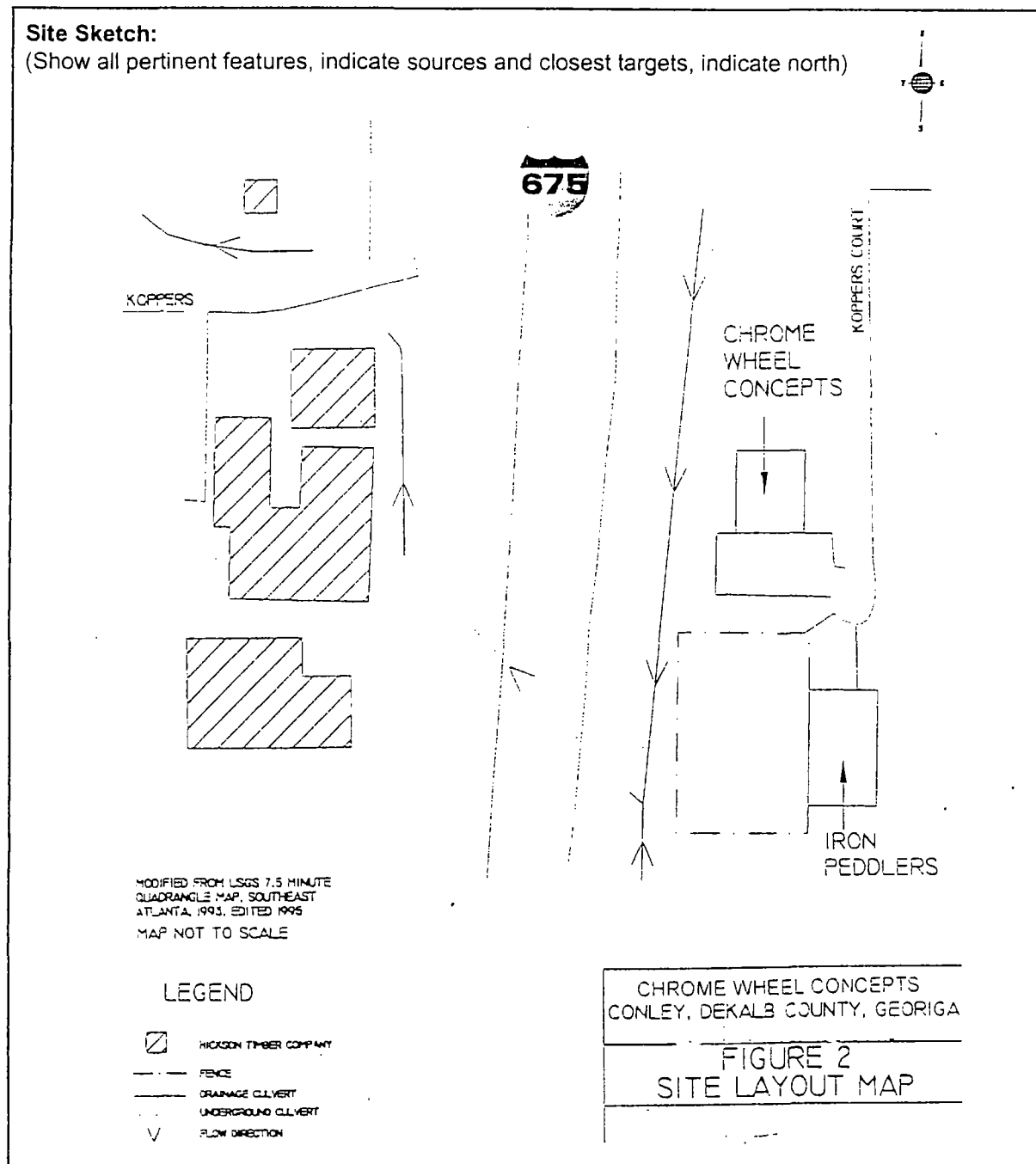
(Previous investigations, analytical data)

The contaminants of concern are antimony, arsenic, chromium, copper, lead, mercury, nickel, cyanide, and the pH of the solutions. The sample results documented that a release had occurred.

GENERAL INFORMATION (continued)

Site Sketch:

(Show all pertinent features, indicate sources and closest targets, indicate north)



SOURCE EVALUATION

- ! Number and name each source (e.g., 1. East Drum Storage Area, 2. Sludge Lagoon, 3. Battery Pile).
- ! Identify source type according to the list below.
- ! Describe the physical character of each source (e.g., dimensions, contents, waste types, containment, operating history).
- ! Show waste quantity (WQ) calculations for each source for appropriate tiers. Refer to instructions opposite page 5 and PA Tables 1a and 1b. Identify waste quantity tier and waste characteristics (WC) factor category score (for a site with a single source, according to PA Table 1a). Determine WC from PA Table 1b for the sum of source WQs for a multiple-source site.
- ! Attach additional sheets if necessary.
- ! Determine the site WC factor category score and record at the bottom of the page.

Source Type Descriptions

Landfill: an engineered (by excavation or construction) or natural hole in the ground into which wastes have been disposed by backfilling, or by contemporaneous soil deposition with waste disposal, covering wastes from view.

Surface Impoundment: a topographic depression, excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold accumulated liquid wastes, wastes containing free liquids, or sludges that were not backfilled or otherwise covered during periods of deposition; depression may be dry if deposited liquid has evaporated, volatilized or leached, or wet with exposed liquid; structures that may be more specifically described as lagoon pond, aeration pit, settling pond, tailings pond, sludge pit, etc.; also a surface impoundment that has been covered with soil after the final deposition of waste materials (i.e., buried or backfilled).

Drums: portable containers designed to hold a standard 55-gallon volume of wastes.

Tanks and Non-Drum Containers: any stationary device, designed to contain accumulated wastes, constructed primarily of fabricated materials (such as wood, concrete, steel, or plastic) that provide structural support; any portable or mobile device in which waste is stored or otherwise handled.

Contaminated Soil: soil onto which available evidence indicates that a hazardous substance was spilled, spread, disposed, or deposited.

Pile: any non-containerized accumulation above the ground surface of solid, non-flowing wastes; includes open dumps. Some types of piles are: Chemical Waste Pile -- consists primarily of discarded chemical products, byproducts, radioactive wastes, or used or unused feedstocks; Scrap Metal or Junk Pile -- consists primarily of scrap metal or discarded durable goods such as appliances, automobiles, auto parts, or batteries, composed of materials suspected to contain or have contained a hazardous substance; Tailings Pile -- consists primarily of any combination of overburden from a mining operation and tailings from a mineral mining, beneficiation, or processing operation; Trash Pile -- consists primarily of paper, garbage, or discarded non-durable goods which are suspected to contain or have contained a hazardous substance.

Land Treatment: landfarming or other land treatment method of waste management in which liquid wastes or sludges are spread over land and tilled, or liquids are injected at shallow depths into soils.

Other: a source that does not fit any of the descriptions above; examples include contaminated building, ground water plume with no identifiable source, storm drain, dry well, and injection well.

SOURCE EVALUATION

Source No.: 1	Source Name: RELEASE	Source Waste Quantity (WQ) Calculations:
Source Description: CONTAMINATED SOIL FROM REPORTED RELEASE		ENTIRE SITE APPROXIMATELY ONE ACRE AREA OF RELEASE 40 ft x 40 ft $\therefore WC = 18$

Source No.:	Source Name:	Source Waste Quantity (WQ) Calculations:
Source Description:		

Source No.:	Source Name:	Source Waste Quantity (WQ) Calculations:
Source Description:		
		Site WC:

WASTE CHARACTERISTICS (WC) SCORES

WC, based on waste quantity, may be determined by one or all of four measures called "tiers": constituent quantity, wastestream quantity, source volume, and source area. PA Table 1a (page 5) is divided into these four tiers. The amount and detail of information available determine which tier(s) to use for each source. For each source, evaluate waste quantity by as many of the tiers as you have information to support, and select the result that gives you the highest WC score. If minimal, incomplete, or no information is available regarding waste quantity, assign a WC score of 18 (minimum).

PA Table 1a has 6 columns: column 1 indicates the quantity tier; column 2 lists source types for the four tiers; columns 3, 4, and 5 provide ranges of waste amount for sites with only one source, which correspond to WC scores at the top of the columns (18, 32, or 100); column 6 provides formulas to obtain source waste quantity (WQ) values at sites with multiple sources.

To determine WC for sites with only one source:

1. *Identify source type (see descriptions opposite page 4).*
2. *Examine all waste quantity data available.*
3. *Estimate the mass and/or dimensions of the source.*
4. *Determine which quantity tiers to use based on available source information.*
5. *Convert source measurements to appropriate units for each tier you can evaluate for the source.*
6. *Identify the range into which the total quantity falls for each tier evaluated (PA Table 1a).*
7. *Determine the highest WC score obtained for any tier (18, 32, or 100, at top of PA Table 1a columns 3, 4, and 5, respectively).*
8. *Use this WC score for all pathways.*

To determine WC for sites with multiple sources:

1. *Identify each source type (see descriptions opposite page 4).*
2. *Examine all waste quantity data available for each source.*
3. *Estimate the mass and/or dimensions of each source.*
4. *Determine which quantity tiers to use for each source based on the available information.*
5. *Convert source measurements to appropriate units for each tier you can evaluate for each source.*
6. *For each source, use the formulas in column 6 of PA Table 1a to determine the WQ value for each tier that can be evaluated. The highest WQ value obtained for any tier is the WQ value for the source.*
7. *Sum the WQ values for all sources to get the site WQ total.*
8. *Use the site WQ total from step 7 to assign the WC score from PA Table 1b.*
9. *Use this WC score for all pathways.*

* The WC score is considered in all four pathways. However, if a primary target is identified for the ground water, surface water, or air migration pathway, assign the determined WC or a score of 32, whichever is greater, as the WC score for that pathway.

PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

PA Table 1a: WC Scores for Single Source Sites and Formulas for Multiple Source Sites

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores)			MULTIPLE SOURCE SITES
		WC = 18	WC = 32	WC = 100	
CONCENTRATION	N/A	≤ 100 lb	> 100 to 10,000 lb	> 10,000 lb	lb + 1
WASTELAND AREA	N/A	≤ 500,000 lb	> 500,000 to 50 million lb	> 50 million lb	lb + 5,000
VOLUME	Landfill	≤ 6.75 million ft ³ ≤ 250,000 yd ³	> 6.75 million to 675 million ft ³ > 250,000 to 25 million yd ³	> 675 million ft ³ > 25 million yd ³	ft ³ + 67,500 yd ³ + 2,500
	Surface impoundment	≤ 6,750 ft ³ ≤ 250 yd ³	> 6,750 to 675,000 ft ³ > 250 to 25,000 yd ³	> 675,000 ft ³ > 25,000 yd ³	ft ³ + 67.5 yd ³ + 2.5
	Drums	≤ 1,000 drums	> 1,000 to 100,000 drums	> 100,000 drums	drums + 10
	Tanks and non-drum containers	≤ 50,000 gallons	> 50,000 to 5 million gallons	> 5 million gallons	gallons + 500
	Contaminated soil	≤ 6.75 million ft ³ ≤ 250,000 yd ³	> 6.75 million to 675 million ft ³ > 250,000 to 25 million yd ³	> 675 million ft ³ > 25 million yd ³	ft ³ + 67,500 yd ³ + 2,500
	Pile	≤ 6,750 ft ³ ≤ 250 yd ³	> 6,750 to 675,000 ft ³ > 250 to 25,000 yd ³	> 675,000 ft ³ > 25,000 yd ³	ft ³ + 67.5 yd ³ + 2.5
	Other	≤ 6,750 ft ³ ≤ 250 yd ³	> 6,750 to 675,000 ft ³ > 250 to 25,000 yd ³	> 675,000 ft ³ > 25,000 yd ³	ft ³ + 67.5 yd ³ + 2.5
AREA	Landfill	≤ 340,000 ft ² ≤ 7.8 acres	> 340,000 to 34 million ft ² > 7.8 to 780 acres	> 34 million ft ² > 780 acres	ft ² + 3,400 acres + 0.078
	Surface impoundment	≤ 1,300 ft ² ≤ 0.029 acres	> 1,300 to 130,000 ft ² > 0.029 to 2.9 acres	> 130,000 ft ² > 2.9 acres	ft ² + 13 acres + 0.00029
	Contaminated soil	≤ 3.4 million ft ² ≤ 78 acres	> 3.4 million to 34 million ft ² > 78 to 7,800 acres	> 34 million ft ² > 7,800 acres	ft ² + 34,000 acres + 0.78
	Pile*	≤ 1,300 ft ² ≤ 0.029 acres	> 1,300 to 130,000 ft ² > 0.029 to 2.9 acres	> 130,000 ft ² > 2.9 acres	ft ² + 13 acres + 0.00029
	Land treatment	≤ 27,000 ft ² ≤ 0.62 acres	> 27,000 to 2.7 million ft ² > 0.62 to 62 acres	> 2.7 million ft ² > 62 acres	ft ² + 270 acres + 0.0062

1 ton = 2,000 lb = 1 yd³ = 4 drums = 200 gallons

* Use area of land surface under pile, net surface area of pile.

PA Table 1b: WC Scores for Multiple Source Sites

WQ Total	WC Score
> 0 to 100	18
> 100 to 10,000	32
> 10,000	100

GROUND WATER PATHWAY

Ground Water Use Description: Provide information on ground water use in the vicinity. Present the general stratigraphy, aquifers used, and distribution of private and municipal wells.

Calculations for Drinking Water Populations Served by Ground Water: Provide populations from private wells and municipal supply systems in each distance category. Show apportionment calculations for blended supply systems.

GROUND WATER PATHWAY GROUND WATER USE DESCRIPTION

Describe Ground Water Use Within 4-miles of the Site:

(Describe stratigraphy, information on aquifers, municipal and/or private wells)

This site lies within the Piedmont/Blue Ridge Province. Metamorphic and igneous rocks that range in age from Precambrian to Triassic underlie this area. Common rock types in the area include granite, granite gneiss, biotite gneiss, mica schist, and amphibolite. These rocks are complexly folded and faulted (Reference 5). Weathering processes result in an overlying mantle of unconsolidated material called saprolite as well as the development of soil. These materials together are referred to as the regolith (Reference 6).

Ground water in this area occurs mainly in the saturated regolith and in discontinuities in the underlying rocks, such as joints, fractures, foliation, and weathered zones. The relatively more permeable regolith serves as a reservoir to trap and channel recharge water into the underlying network of discontinuities in the relatively less permeable bedrock. The orientation of these discontinuities controls groundwater flow directions. Because the regolith and bedrock comprise a single flow system, the "uppermost aquifer" is the only aquifer underlying the site (Reference 6).

Groundwater in this area is typically encountered between 10 and 600 feet below ground surface, and with very few exceptions, is under water table conditions (Reference 7). Yields for wells tend to be relatively small due to the low permeability of the crystalline rocks and overlying regolith, which limits the rate of recharge. For this reason, groundwater in this area is second to surface water for municipal supply. Well yields are highly dependent on well placement and site specific geology, however, and locally may be sufficient for municipal supply. (Reference 6)

Calculations for Drinking Water Populations Served by Ground Water:

TABLE 1: DRINKING WATER POPULATIONS
(Reference 8)

Distance Rings (miles)	Population Served By Private Groundwater Wells	Population Served By City Water	Total Population
0 - 0.25	0	63	63
0.25 - 0.50	0	181	181
0.50 - 1.0	7	566	573
1.0 - 2.0	29	7635	7664
2.0 - 3.0	69	21707	21776
3.0 - 4.0	309	39174	39483

GROUND WATER PATHWAY CRITERIA LIST

This "Criteria List" helps guide the process of developing hypotheses concerning the occurrence of a suspected release and the exposure of specific targets to a hazardous substance. The check-boxes record your professional judgment in evaluating these factors. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypotheses, list them at the bottom of the page or attach an additional page.

The "Suspected Release" section identifies several site, source, and pathway conditions that could provide insight as to whether a release from the site is likely to have occurred. If a release is suspected, use the "Primary Targets" section to evaluate conditions that may help identify targets likely to be exposed to a hazardous substance. Record responses for the well that you feel has the highest probability of being exposed to a hazardous substance. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary."

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question. If you check the "Suspected Release" box as "yes," make sure you assign a Likelihood of Release value of 550 for the pathway.

GROUND WATER PATHWAY CRITERIA LIST	
SUSPECTED RELEASE	PRIMARY TARGETS
<p>Y N U e o n s s k</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Are sources poorly contained?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is waste quantity particularly large?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is precipitation heavy?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Is the infiltration rate high?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is the site located in an area of karst terrain?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is the subsurface highly permeable or conductive?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Is drinking water drawn from a shallow aquifer?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Are suspected contaminants highly mobile in ground water?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Does analytical or circumstantial evidence suggest ground water contamination?</p> <p><input type="checkbox"/> <input type="checkbox"/> Other criteria? _____</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> SUSPECTED RELEASE?</p>	<p>Y N U e o n s s k</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is any drinking water well nearby?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Has any nearby drinking water well been closed?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Has any nearby drinking water user reported foul-tasting or foul-smelling water?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Does any nearby well have a large drawdown or high production rate?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Does analytical or circumstantial evidence suggest contamination at a drinking water well?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Does any drinking water well warrant sampling?</p> <p><input type="checkbox"/> <input type="checkbox"/> Other criteria? _____</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> PRIMARY TARGET(S) IDENTIFIED?</p>
<p>Summarize the rationale for Suspected Release (attach an additional page if necessary):</p> <p>KNOWN SOIL CONTAMINATION SOURCE IS POORLY CONTAINED ∴ SUSPECT RELEASE</p>	<p>Summarize the rationale for Primary Targets (attach an additional page if necessary):</p> <p>NO PRIMARY TARGETS IDENTIFIED. NEAREST GROUNDWATER WELL IN THE 1/2 TO 1 MILE RADIUS</p>

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics

Answer the questions at the top of the page. Refer to the Ground Water Pathway Criteria List (page 7) to hypothesize whether you suspect that a hazardous substance associated with the site has been released to ground water. Record depth to aquifer (in feet): the difference between the deepest occurrence of a hazardous substance and the depth of the top of the shallowest aquifer at (or as near as possible) to the site. Note whether the site is in karst terrain (characterized by abrupt ridges, sink holes, caverns, springs, disappearing streams). Record the distance (in feet) from any source to the nearest well used for drinking water.

Likelihood of Release (LR)

1. Suspected Release: Hypothesize based on professional judgment guided by the Ground Water Pathway Criteria List (page 7). If you suspect a release to ground water, use only Column A for this pathway and do not evaluate factor 2.

2. No Suspected Release: If you do not suspect a release, determine score based on depth to aquifer or whether the site is in an area of karst terrain. If you do not suspect a release to ground water, use only Column B to score this pathway.

Targets (T)

This factor category evaluates the threat to populations obtaining drinking water from ground water. To apportion populations served by blended drinking water supply systems, determine the percentage of population served by each well based on its production.

3. Primary Target Population: Evaluate populations served by all drinking water wells that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Ground Water Pathway Criteria List (page 7) to make this determination. In the space provided, enter the population served by any wells you suspect have been exposed to a hazardous substance from the site. If only the number of residences is known, use the average county residents per household (rounded up to the next integer) to determine population served. Multiply the population by 10 to determine the Primary Target Population score. Note that if you do not suspect a release, there can be no primary target population.

4. Secondary Target Population: Evaluate populations served by all drinking water wells within 4 miles that you do not suspect have been exposed to a hazardous substance. Use PA Table 2a or 2b (for wells drawing from non-karst and karst aquifers, respectfully) (page 9). If only the number of residences is known, use the average county residents per household (rounded to the nearest integer) to determine population served. Circle the assigned value for the population in each distance category and enter it in the column on the far-right side of the table. Sum the far-right column and enter the total as the Secondary Target Population factor score.

5. Nearest Well represents the threat posed to the drinking water well that is most likely to be exposed to a hazardous substance. If you have identified a primary target population, enter 50. Otherwise, assign the score from PA Table 2a or 2b for the closest distance category with a drinking water well population.

6. Wellhead Protection Area (WHPA): WHPAs are special areas designated by States for protection under Section 1428 of the Safe Drinking Water Act. Local/State and EPA Regional water officials can provide information regarding the location of WHPAs.

7. Resources: A score of 5 can generally be assigned as a default measure. Assign zero only if ground water within 4 miles has no resource use.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

Waste Characteristics (WC)

8. Waste Characteristics: Score is assigned from page 4. However, if you have identified any primary target for ground water, assign either the score calculated on page 4 or a score of 32, whichever is greater.

Ground Water Pathway Score: Multiply the scores for LR, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Ground Water Pathway Criteria List, page 7)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Is the site located in karst terrain?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Depth to aquifer:	~30 ft
Distance to the nearest drinking water well:	~5000 ft

LIKELIHOOD OF RELEASE

	A Suspected Release (500)	B No Suspected Release (500 or 340)	References
1. SUSPECTED RELEASE: If you suspect a release to ground water (see page 7), assign a score of 550. Use only column A for this pathway.	550		
2. NO SUSPECTED RELEASE: If you do not suspect a release to ground water, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.			
LR =	550		

TARGETS

3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water wells that you suspect have been exposed to a hazardous substance from the site (see Ground Water Pathway Criteria List, page 7). _____ people x 10 =	-0-		
4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water wells that you do NOT suspect have been exposed to a hazardous substance from the site, and assign the total population score from PA Table 2. Are any wells part of a blended system? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, attach a page to show apportionment calculations.	7		
5. NEAREST WELL: If you have identified a primary target population for ground water, assign a score of 50; otherwise, assign the Nearest Well score from PA Table 2. If no drinking water wells exist within 4 miles, assign a score of zero.	9		
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA, or if you have identified any primary target well within a WHPA, assign a score of 20; assign 5 if neither condition holds but a WHPA is present within 4 miles; otherwise assign zero.	0		
7. RESOURCES	5		
T =	21		

WASTE CHARACTERISTICS

8. A. If you have identified any primary target for ground water, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	(100, 32, = 100)		
B. If you have NOT identified any primary target for ground water, assign the waste characteristics score calculated on page 4.	18		
WC =	18		

GROUND WATER PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82,500}$$

(subject to a maximum of 100)

2.52

PA TABLE 2: VALUES FOR SECONDARY GROUND WATER TARGET POPULATIONS

PA Table 2a: Non-Karst Aquifers

Distance from Site	Population	Nearest Well (choose highest)	Population Served by Wells Within Distance Category										Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	Greater than 100,000	
0 to 1/4 mile	0	20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 1/4 to 1/2 mile	0	18	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile	7	(9)	(1)	1	2	5	17	52	167	522	1,668	5,224	1
> 1 to 2 miles	29	5	1	(1)	1	3	9	29	94	294	939	2,938	1
> 2 to 3 miles	69	3	1	1	(1)	2	7	21	68	212	678	2,122	
> 3 to 4 miles	309	2	1	1	1	1	(4)	13	42	131	417	1,306	4
Nearest Well =		9											7

PA Table 2b: Karst Aquifers

Distance from Site	Population	Nearest Well (use 20 for karst)	Population Served by Wells Within Distance Category										Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	Greater than 100,000	
0 to 1/4 mile	---	20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 1/4 to 1/2 mile	---	20	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile	---	20	1	1	3	8	26	82	261	816	2,607	8,162	
> 1 to 2 miles	---	20	1	1	3	8	26	82	261	816	2,607	8,162	
> 2 to 3 miles	---	20	1	1	3	8	26	82	261	816	2,607	8,162	
> 3 to 4 miles	---	20	1	1	3	8	26	82	261	816	2,607	8,162	
Nearest Well =													

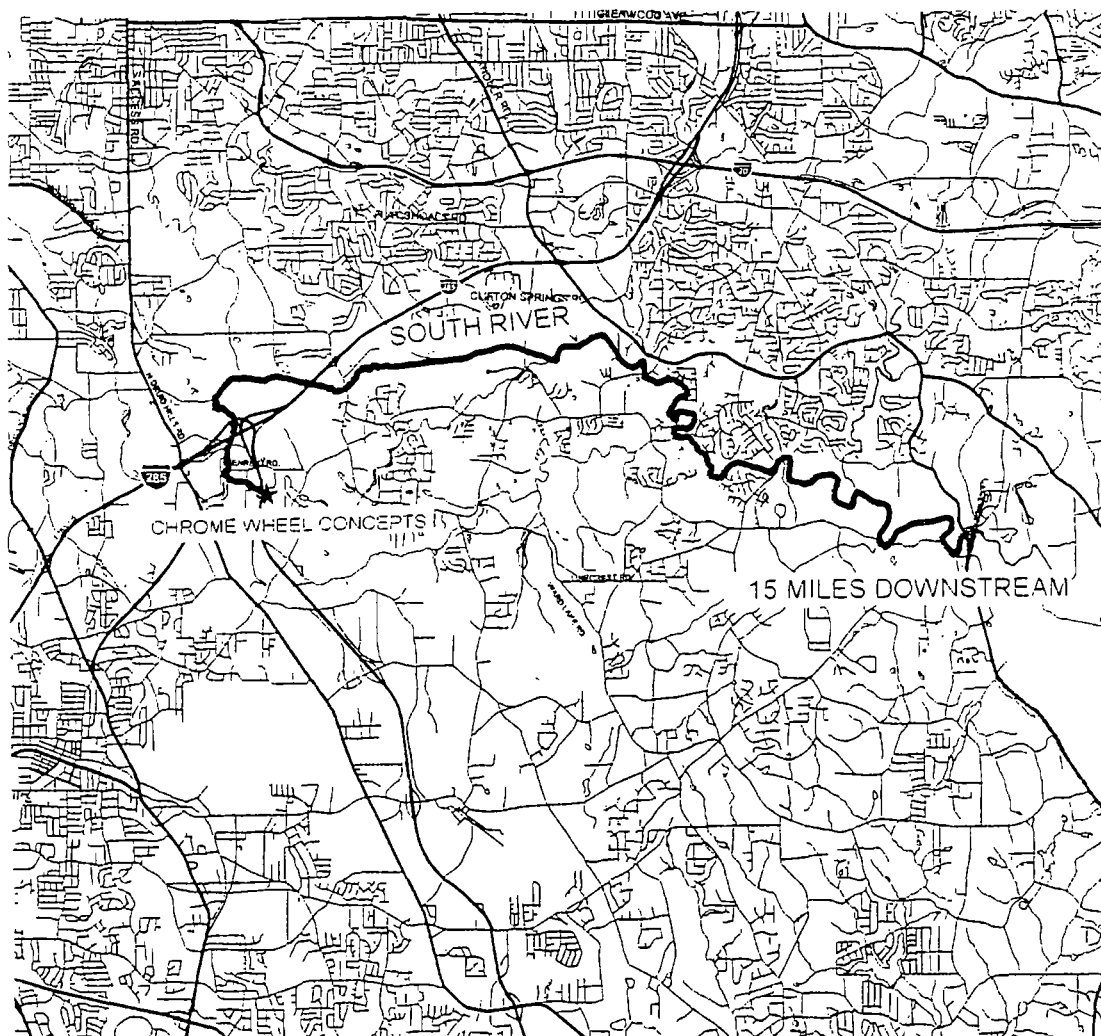
SURFACE WATER PATHWAY

Migration Route Sketch: Sketch the surface water migration pathway (freehand is acceptable) illustrating the drainage route and identifying water bodies, probable point of entry, flows, and targets.

SURFACE WATER PATHWAY MIGRATION ROUTE SKETCH

Surface Water Migration Route Sketch:

(include runoff route, probable point of entry, 15-mile target distance limit, intakes, fisheries, and sensitive environments).



- Roads
- State and US Highways
- Interstate Highways
- Rivers/Streams
- Lake/Pond
- Swamp/Marsh
- 15 Mile Downstream Pathway



Chrome Wheels Site
15 Mile Downstream Pathway
4041 Koppers Ct.
Atlanta, DeKalb County

Scale: 1 inch = 1 mile
33 39' 45" 84 19' 25"

Surface Water Intakes from EPA GSB DR96-27(1996);
Roads, Rivers, Wetlands from Georgia DOT (1993);

Aug. 27, 2001

SURFACE WATER PATHWAY CRITERIA LIST

This "Criteria List" helps guide the process of developing hypotheses concerning the occurrence of a suspected release and the exposure of specific targets to a hazardous substance. The check-boxes record your professional judgment in evaluating these factors. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypotheses, list them at the bottom of the page or attach an additional page.

The "Suspected Release" section identifies several site, source, and pathway conditions that could provide insight as to whether a release from the site is likely to have occurred. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that may help identify targets likely to be exposed to a hazardous substance. Record responses for the target that you feel has the highest probability of being exposed to a hazardous substance. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary."

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question. If you check the "Suspected Release" box as "yes," make sure you assign a Likelihood of Release value of 550 for the pathway.

If the distance to surface water is greater than 2 miles, do not evaluate the surface water migration pathway. Document the source of information in the text boxes below the surface water criteria list.

SURFACE WATER PATHWAY CRITERIA LIST	
SUSPECTED RELEASE	PRIMARY TARGETS
<p>Y N U e o n e k</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is surface water nearby?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is waste quantity particularly large?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is the drainage area large?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is rainfall heavy?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Is the infiltration rate low?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Are sources poorly contained or prone to runoff or flooding?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is a runoff route well defined (e.g., ditch or channel leading to surface water)?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is vegetation stressed along the probable runoff route?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Are sediments or water unnaturally discolored?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Is wildlife unnaturally absent?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Has deposition of waste into surface water been observed?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is ground water discharge to surface water likely?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Does analytical or circumstantial evidence suggest surface water contamination?</p> <p><input type="checkbox"/> <input type="checkbox"/> Other criteria? _____</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> SUSPECTED RELEASE?</p>	<p>Y N U e o n e k</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Is any target nearby? If yes:</p> <p><input type="checkbox"/> Drinking water intake</p> <p><input checked="" type="checkbox"/> Fishery</p> <p><input checked="" type="checkbox"/> Sensitive environment</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Has any intake, fishery, or recreational area been closed?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Does any target warrant sampling? If yes:</p> <p><input type="checkbox"/> Drinking water intake</p> <p><input type="checkbox"/> Fishery</p> <p><input type="checkbox"/> Sensitive environment</p> <p><input type="checkbox"/> <input type="checkbox"/> Other criteria? _____</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> PRIMARY INTAKE(S) IDENTIFIED?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> PRIMARY FISHERY(IES) IDENTIFIED?</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?</p>
<p>Summarize the rationale for Suspected Release (attach an additional page if necessary):</p> <p>DOCUMENTED RELEASE TO SURFACE WATER AND SEDIMENT. (REFERENCE 6)</p>	<p>Summarize the rationale for Primary Targets (attach an additional page if necessary):</p> <p>NO INTAKES WITHIN 15 MILES. SMALL CREEK IS NOT CONSIDERED PRIMARY FISHERY.</p> <p>ALONG CULVERT AND SMALL CREEK ARE WETLANDS. SEDIMENT SAMPLES CONTAINED CONTAMINANTS FROM SITE.</p>

SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics

The surface water pathway includes three threats: Drinking Water Threat, Human Food Chain Threat, and Environmental Threat. Answer the questions at the top of the page. Refer to the Surface Water Pathway Criteria List (page 11) to hypothesize whether you suspect that a hazardous substance associated with the site has been released to surface water. Record the distance to surface water (the shortest overland drainage distance from a source to a surface water body). Record the flood frequency at the site (e.g., 100-yr, 200-yr). If the site is located in more than one floodplain, use the most frequent flooding event. Identify surface water use(s) along the surface water migration path and their distance(s) from the site.

Likelihood of Release (LR)

1. Suspected Release: Hypothesize based on professional judgment guided by the Surface Water Pathway Criteria List (page 11). If you suspect a release to surface water, use only Column A for this pathway and do not evaluate factor

2. No Suspected Release: If you do not suspect a release, determine score based on the shortest overland drainage distance from a source to a surface water body. If distance to surface water is 2,500 feet or less, assign a score of 500. If distance to surface water is greater than 2,500 feet, determine score based on flood frequency. If you do not suspect a release to surface water, use only Column B to score this pathway.

Drinking Water Threat Targets (T)

3. List all drinking water intakes on downstream surface water bodies along the surface water migration path. Record the intake name, the type of water body on which the intake is located, the flow of the water body, and the number of people served by the intake (apportion the population if part of a blended system).

4. Primary Target Population: Evaluate populations served by all drinking water intakes that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. In the space provided, enter the population served by all intakes you suspect have been exposed to a hazardous substance from the site. If only the number of residences is known, use the average county residents per household (rounded up to the next integer) to determine population served. Multiply by 10 to determine the Primary Target Population score. Remember, if you do not suspect a release, there can be no primary target population.

5. Secondary Target Population: Evaluate populations served by all drinking water intakes within the target distance limit that you do not suspect have been exposed to a hazardous substance. Use PA Table 3 (page 13) and enter the population served by intakes for each flow category. If only the number of residences is known, use the average county residents per household (rounded to the nearest integer) to determine population served. Circle the assigned value for the population in each flow category and enter it in the column on the far-right side of the table. Sum the far-right column and enter the total as the Secondary Target Population factor score.

Gauging station data for many surface water bodies are available from USGS or other sources. In the absence of gauging station data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that the flow category "mixing zone of quiet flowing rivers" is limited to 3 miles from the probable point of entry.

6. Nearest Intake represents the threat posed to the drinking water intake that is most likely to be exposed to a hazardous substance. If you have identified a primary target population, enter 50. Otherwise, assign the score from PA Table 3 (page 13) for the lowest-flowing water body on which there is an intake.

7. Resources: A score of 5 can generally be assigned as a default measure. Assign zero only if surface water within the target distance limit has no resource use.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

SURFACE WATER PATHWAY LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Surface Water Pathway Criteria List, page 11)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Distance to surface water:	<u>~25</u> ft
Flood frequency:	<u>500</u> yrs
What is the downstream distance to the nearest drinking water intake?	<u> </u> miles
Nearest fishery? <u> </u> miles	Nearest sensitive environment? <u>4</u> miles

LIKELIHOOD OF RELEASE

- SUSPECTED RELEASE:** If you suspect a release to surface water (see page 11), assign a score of 550. Use only column A for this pathway.
- NO SUSPECTED RELEASE:** If you do not suspect a release to surface water, use the table below to assign a score based on distance to surface water and flood frequency. Use only column B for this pathway.

Distance to surface water \leq 2,500 feet	500
Distance to surface water $>$ 2,500 feet, and	
Site in annual or 10-year floodplain	500
Site in 100-year floodplain	400
Site in 500-year floodplain	300
Site outside 500-year floodplain	100

	A Suspected Release (550)	B No Suspected Release (500, 400, 300 or 100)	References
LR -	550		

DRINKING WATER THREAT TARGETS

- Record the water body type, flow (if applicable), and number of people served by each drinking water intake within the target distance limit. If there is no drinking water intake within the target distance limit, factors 4, 5, and 6 each receive zero scores.

Intake Name	Water Body Type	Flow	People Served
N/A		cfs	
		cfs	
		cfs	

- PRIMARY TARGET POPULATION:** If you suspect any drinking water intake listed above has been exposed to a hazardous substance from the site (see Surface Water Pathway Criteria List, page 11), list the intake name(s) and calculate the factor score based on the total population served.

- SECONDARY TARGET POPULATION:** Determine the number of people served by drinking water intakes that you do NOT suspect have been exposed to a hazardous substance from the site, and assign the total population score from PA Table 3.

Are any intakes part of a blended system? Yes ☐ No ☐
If yes, attach a page to show apportionment calculations.

- NEAREST INTAKE:** If you have identified a primary target population for the drinking water threat (factor 4), assign a score of 50; otherwise, assign the Nearest Intake score from PA Table 3. If no drinking water intake exists within the target distance limit, assign a score of zero.

- RESOURCES**

T =

-0-	
-0-	
-0-	
5	
5	

PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

Surface Water Body Flow (see PA Table 4)	Population	Nearest Intake (choose highest)	Population Served by Intakes Within Distance Category											Population Value
			1 to 10	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	Greater than 1,000,000	
<10 cfs	_____	20	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	_____
10 to 100 cfs	_____	2	1	1	2	5	16	52	163	521	1,633	5,214	16,325	_____
>100 to 1,000 cfs	_____	1	0	0	1	1	2	5	16	52	163	521	1,633	_____
>1,000 to 10,000 cfs	_____	0	0	0	0	0	1	1	2	5	16	52	163	_____
>10,000 cfs or Great Lakes	_____	0	0	0	0	0	0	0	1	1	2	5	16	_____
3-mile Mixing Zone	_____	10	1	3	8	26	82	261	816	2,607	8,162	26,068	81,663	_____
Nearest Intake = _____			Score = <u> 0 </u>											

PA TABLE 4: SURFACE WATER TYPE / FLOW CHARACTERISTICS
WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

TYPE OF Surface Water Body			Dilution Weight
Water Body Type	OR	FLOW	
minimal stream		<10 cfs	1
small to moderate stream		10 to 100 cfs	0.1
moderate to large stream		>100 to 1,000 cfs	N/A
large stream to river		1,000 to 10,000 cfs	N/A
large river		>10,000 cfs	N/A
3-mile mixing zone of quiet flowing streams or rivers		10 cfs or greater	N/A
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lakes		N/A	N/A

SURFACE WATER PATHWAY HUMAN FOOD CHAIN THREAT SCORESHEET

Likelihood of Release (LR)

LR is the same for all surface water pathway threats. Enter LR score from page 12.

Human Food Chain Threat Targets (T)

8. The only human food chain targets are fisheries. A fishery is an area of a surface water body from which food chain organisms are taken or could be taken for human consumption on a subsistence, sporting, or commercial basis. Food chain organisms include fish, shellfish, crustaceans, amphibians, and amphibious reptiles. Fisheries are delineated by changes in surface water body type (i.e., streams and rivers, lakes, coastal tidal waters, and oceans/Great Lakes) and whenever the flow characteristics of a stream or river change.

In the space provided, identify all fisheries within the target distance limit. Indicate the surface water body type and flow for each fishery. Gauging station flow data are available for many surface water bodies from USGS or other sources. In the absence of gauging station data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that, if there are no fisheries within the target distance limit, the Human Food Chain Threat Targets score is zero.

9. Primary fisheries are any fisheries within the target distance limit that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. If you identify any primary fisheries, list them in the space provided, enter 300 as the Primary Fisheries factor score, and do not evaluate Secondary Fisheries. Note that if you do not suspect a release, there can be no primary fisheries.

10. Secondary fisheries are fisheries that you do not suspect have been exposed to a hazardous substance. Evaluate this factor only if fisheries are present within the target distance limit, but none is considered a primary fishery.

- A. If you suspect a release to surface water and have identified a secondary fishery but no primary fishery, assign a score of 210.
- B. If you do not suspect a release, evaluate this factor based on flow. In the absence of gauging station flow data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). Assign a Secondary Fisheries score from the table on the scoresheet using the lowest flow at any fishery within the target distance limit. (Dilution weight multiplier does not apply to PA evaluation of this factor.)

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

**SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT SCORESHEET**

LIKELIHOOD OF RELEASE		LR =	A	B	References
			Suspected Release (550)	No Suspected Release (500, 400, 300 or 100)	
Enter Surface Water Likelihood of Release score from page 12.			550		

HUMAN FOOD CHAIN THREAT TARGETS

8. Record the water body type and flow (if applicable) for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a Targets score of 0 at the bottom of the page.

Fishery Name	Water Body Type	Flow
UNNAMED TRIBUTARY	CREEK	cfs
SOUTH RIVER	RIVER	cfs
		cfs
		cfs
		cfs

9. PRIMARY FISHERIES: If you suspect any fishery listed above has been exposed to a hazardous substance from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 10. List the primary fisheries:
- _____
- _____

10. SECONDARY FISHERIES

- A. If you suspect a release to surface water and have identified a secondary fishery but no primary fishery, assign a score of 210.
- B. If you do not suspect a release, assign a Secondary Fisheries score from the table below using the lowest flow at any fishery within the target distance limit.

Lowest Flow	Secondary Fisheries Score
< 10 cfs	210
10 to 100 cfs	30
> 100 cfs, coastal tidal waters, oceans, or Great Lakes	12

T =

(300)	
(210)	210
(210, 30, or 12)	
(300, 210, or 0)	210
(210, 30, 12 or 0)	

SURFACE WATER PATHWAY ENVIRONMENTAL THREAT SCORESHEET

Likelihood of Release (LR)

LR is the same for all surface water pathway threats. Enter LR score from page 12.

Environmental Threat Targets (T)

11. PA Table 5 (page 16) lists sensitive environments for the Surface Water Pathway Environmental Threat. In the space provided, identify all sensitive environments located within the target distance limit. Indicate the surface water body type and flow at each sensitive environment. Gauging station flow data for many surface water bodies are available from USGS or other sources. In the absence of gauging station data, estimate flow using the list of surface water body types and associated flow categories in PA Table 4 (page 13). The flow for lakes is determined by the sum of flows of streams entering or leaving the lake. Note that if there are no sensitive environments within the target distance limit, the Environmental Threat Targets score is zero.

12. **Primary sensitive environments** are surface water sensitive environments within the target distance limit that you suspect have been exposed to a hazardous substance released from the site. Use professional judgment guided by the Surface Water Pathway Criteria List (page 11) to make this determination. If you identify any primary sensitive environments, list them in the space provided, enter 300 as the Primary Sensitive Environments factor score, and do not evaluate Secondary Sensitive Environments. Note that if you do not suspect a release, there can be no primary sensitive environments.

13. **Secondary sensitive environments** are surface water sensitive environments that you do not suspect have been exposed to a hazardous substance. Evaluate this factor only if surface water sensitive environments are present within the target distance limit, but none is considered a primary sensitive environment. Evaluate secondary sensitive environments based on flow.

! In the table provided, list all secondary sensitive environments on surface water bodies with flow of 100 cfs or less.

- 1) Use PA Table 4 (page 13) to determine the appropriate dilution weight for each.
- 2) Use PA Tables 5 and 6 (page 16) to determine the appropriate value for each sensitive environment type and for wetlands frontage.
- 3) For a sensitive environment that falls into more than one of the categories in PA Table 5, sum the values for each type to determine the environment value (e.g., a wetland with 1.5 miles frontage (value of 50) that is also a critical habitat for a Federally designated endangered species (value of 100) would receive a total value of 150).
- 4) For each sensitive environment, multiply the dilution weight by the environment type (or length of wetlands) value and record the product in the far-right column.
- 5) Sum the values in the far-right, column and enter the total as the Secondary Sensitive Environments score. Do not evaluate part B of this factor.

! If all secondary sensitive environments are on surface water bodies with flows greater than 100 cfs, assign 10 as the Secondary Sensitive Environments score.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT SCORESHEET

		A	B	
LIKELIHOOD OF RELEASE		<i>Suspected Release</i>	<i>No Suspected Release</i>	<i>Reference</i>
Enter Surface Water Likelihood of Release score from page 12.	LR =	(1402) 550	(1402, 602, 300 or 100)	

ENVIRONMENTAL THREAT TARGETS

11. Record the water body type and flow (if applicable) for each surface water sensitive environment within the target distance limit (see PA Tables 4 and 5). If there is no sensitive environment within the target distance limit, assign a Targets score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
WETLANDS / UNNAMED TRIB.	CREEK	<10 cfs
WETLANDS / SOUTH RIVER	RIVER	<100 cfs
		cfs
		cfs
		cfs

12. **PRIMARY SENSITIVE ENVIRONMENTS:** If you suspect any sensitive environment listed above has been exposed to a hazardous substance from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate factor 13. List the primary sensitive environments:

WETLANDS FOR CREEK & RIVER

- 13. SECONDARY SENSITIVE ENVIRONMENTS:** If sensitive environments are present, but none is a primary sensitive environment, evaluate Secondary Sensitive Environments based on flow.

- A. For secondary sensitive environments on surface water bodies with flows of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:**

Row	Duration Weight (PA Table 4)	Environment Type and Value (PA Tables 5 and 6)	Total
cfs	x		
cfs	x		
cfs	x		
cfs	x		
cfs	x		

Slavn =

- B. If all secondary sensitive environments are located on surface water bodies with flows > 100 cfs, assign a score of 10.**

T =

PA TABLE 5: SURFACE WATER AND AIR PATHWAY SENSITIVE ENVIRONMENTS VALUES

<i>Sensitive Environment</i>	<i>Assigned Value</i>
Critical habitat for Federally designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas Identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federally designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species in a river system Terrestrial areas utilized for breeding by large or dense aggregations of vertebrate animals (air pathway) or semi-aquatic foragers (surface water pathway) National river reach designated as Recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for protection/maintenance of aquatic life under the Clean Water Act	5
Wetlands	See PA Table 6 (Surface Water Pathway) or PA Table 9 (Air Pathway)

PA TABLE 6: SURFACE WATER PATHWAY
WETLANDS FRONTAGE VALUES

<i>Total Length of Wetlands</i>	<i>Assigned Value</i>
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 18 to 20 miles	450
Greater than 20 miles	500

SURFACE WATER PATHWAY WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORES

Waste Characteristics (WC)

14. Waste Characteristics: Score is assigned from page 4. However, if a primary target has been identified for any surface water threat, assign either the score calculated on page 4 or a score of 32, whichever is greater.

Surface Water Pathway Threat Scores

Fill in the matrix with the appropriate scores from the previous pages. To calculate the score for each threat: multiply the scores for LR, T, and WC; divide the product by 82,500; and round the result to the nearest integer. The Drinking Water Threat and Human Food Chain Threat are each subject to a maximum of 100. The Environmental Threat is subject to a maximum of 60. Enter the rounded threat scores in the far-right column.

Surface Water Pathway Score

Sum the individual threat scores to determine the Surface Water Pathway Score. If the sum is greater than 100, assign 100.

SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS	A	B
	<i>Suspected Release</i>	<i>No Suspected Release</i>
14. A. If you have identified any primary target for surface water (pages 12, 14, or 15), assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	(100 = 32)	
B. If you have NOT identified any primary target for surface water, assign the waste characteristics score calculated on page 4.	(100, 32, = 18) 18	(100, 32, = 18)
WC =	18	

SURFACE WATER PATHWAY THREAT SCORES

Threat	<i>Likelihood of Release (LR) Score</i> (from page 12)	<i>Targets (T) Score</i> (pages 12, 14, 15)	<i>Pathway Waste Characteristics (WC) Score</i> (determined above)	<i>Threat Score</i> $LR \times T \times WC$ / 82,500
Drinking Water	550	-0-	18	(subject to a maximum of 100) 0
Human Food Chain	550	210	18	(subject to a maximum of 100) 25.2
Environmental	550	300	18	(subject to a maximum of 100) 36.0

SURFACE WATER PATHWAY SCORE
 (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

(subject to a maximum of 100)
 61.2

SOIL EXPOSURE PATHWAY CRITERIA LIST

Areas of surficial contamination can generally be assumed. This "Criteria List" helps guide the process of developing a hypothesis concerning the exposure of specific targets to a hazardous substance at the site. Use the "Resident Population" section to evaluate site and source conditions that may help identify targets likely to be exposed to a hazardous substance. The check-boxes record your professional judgment. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypothesis, list them at the bottom of the page or attach an additional page.

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question.

SOIL EXPOSURE PATHWAY CRITERIA LIST	
SUSPECTED CONTAMINATION	RESIDENT POPULATION
<p>Surficial contamination can generally be assumed.</p>	<p>Y N U e o n s k</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems?</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Does any neighboring property warrant sampling?</p> <p><input type="checkbox"/> <input type="checkbox"/> Other criteria? _____</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> RESIDENT POPULATION IDENTIFIED?</p>
<p>Summarize the rationale for Resident Population (attach an additional page if necessary):</p> <p>No WORKERS ON SITE.</p> <p>No RESIDENTS OR DAYCARE FACILITIES WITHIN 200 FEET OF SITE.</p>	

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics

Answer the questions at the top of the page. Identify people who may be exposed to a hazardous substance because they work at the facility, or reside or attend school or daycare on or within 200 feet of an area of suspected contamination. If the site is active, estimate the number of full and part-time workers. Note that evaluation of targets is based on current site conditions.

Likelihood of Exposure (LE)

1. Suspected Contamination: Areas of surficial contamination are present at most sites, and a score of 550 can generally be assigned as a default measure. Assign zero, which effectively eliminates the pathway from further consideration, only if there is no surficial contamination; reliable analytical data are generally necessary to make this determination.

Resident Population Threat Targets (T)

2. Resident Population corresponds to "primary targets" for the migration pathways. Use professional judgment guided by the Soil Exposure Pathway Criteria List (page 18) to determine if there are people living or attending school or daycare on or within 200 feet of areas of suspected contamination. Record the number of people identified as resident population and multiply by 10 to determine the Resident Population factor score.

3. Resident Individual: Assign 50 if you have identified a resident population; otherwise, assign zero.

4. Workers: Estimate the number of full and part-time workers at this facility and adjacent facilities where contamination is also suspected. Assign a score for the Workers factor from the table.

5. Terrestrial Sensitive Environments: In the table provided, list each terrestrial sensitive environment located on an area of suspected contamination. Use PA Table 7 (page 20) to assign a value for each. Sum the values and assign the total as the factor score.

6. Resources: A score of 5 can generally be assigned as a default measure. Assign zero only if there is no land resource use on an area of suspected contamination.

Sum the target scores.

Waste Characteristics (WC)

7. Enter the WC score determined on page 4.

Resident Population Threat Score: Multiply the scores for LE, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

Nearby Population Threat Score: Do not evaluate this threat if you gave a zero score to Likelihood of Exposure. Otherwise, assign a score based on the population within a 1-mile radius (use the same 1-mile radius population you evaluate for air pathway population targets):

<u>Population Within One Mile</u>	<u>Nearby Population Threat Score</u>
< 10,000	1
10,000 to 50,000	2
> 50,000	4

Soil Exposure Pathway Score: Sum the Resident Population Threat score and the Nearby Population Threat score, subject to a maximum of 100.

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics	
Do any people live on or within 200 ft of areas of suspected contamination?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the facility active? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, estimate the number of workers: _____	

LIKELIHOOD OF EXPOSURE

1. SUSPECTED CONTAMINATION: Surficial contamination can generally be assumed, and a score of 550 assigned. Assign zero only if the absence of surficial contamination can be confidently demonstrated.

LE =

Suspected Contamination (100 = 0)
550

References

RESIDENT POPULATION THREAT TARGETS

2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or daycare on or within 200 feet of areas of suspected contamination (see Soil Exposure Pathway Criteria List, page 18).

_____ people x 10 =

- 0 -
(10 = 0)

3. RESIDENT INDIVIDUAL: If you have identified a resident population (factor 2), assign a score of 50; otherwise, assign a score of 0.

- 0 -
(10 = 0)

4. WORKERS: Use the following table to assign a score based on the total number of workers at the facility and nearby facilities with suspected contamination:

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
> 1,000	15

- 0 -

5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Use PA Table 7 to assign a value for each terrestrial sensitive environment on an area of suspected contamination:

Terrestrial Sensitive Environment Type	Value
_____	_____
_____	_____

Sum =

- 0 -
(10 = 0)

6. RESOURCES

5

T =

5

WASTE CHARACTERISTICS

7. Assign the waste characteristics score calculated on page 4.

WC =

(100, 20, or 10)
18

RESIDENT POPULATION THREAT SCORE:

$$\frac{LE \times T \times WC}{82,500}$$

(subject to a maximum of 100)
0.6

NEARBY POPULATION THREAT SCORE:

(1, 2, or 1)
1

SOIL EXPOSURE PATHWAY SCORE:

Resident Population Threat + Nearby Population Threat

(subject to a maximum of 100)
1.6

**PA TABLE 7: SOIL EXPOSURE PATHWAY
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES**

<i>Terrestrial Sensitive Environment</i>	Assigned Value
Terrestrial critical habitat for Federally designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federally designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federal designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

AIR PATHWAY CRITERIA LIST

This "Criteria List" helps guide the process of developing a hypothesis as to whether a release to the air is likely to be detected. The check-boxes record your professional judgment. Answers to all of the listed questions may not be available during the PA. Also, the list is not all-inclusive; if other criteria help shape your hypothesis, list them at the bottom of the page or attach an additional page.

The "Suspected Release" section identifies several conditions that could provide insight as to whether a release from the site is likely to be detected. If a release is suspected, primary targets are any residents, workers, students, and sensitive environments on or within $\frac{1}{4}$ mile of the site.

Check the boxes to indicate a "yes," "no," or "unknown" answer to each question. If you check the "Suspected Release" box as "yes," make sure you assign a Likelihood of Release value of 550 for the pathway.

AIR PATHWAY CRITERIA LIST	
SUSPECTED RELEASE	PRIMARY TARGETS
Y N U e o n s k <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Are odors currently reported? <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Has release of a hazardous substance to the air been directly observed? <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Are there reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air? <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Does analytical or circumstantial evidence suggest a release to the air? <input type="checkbox"/> <input type="checkbox"/> Other criteria? _____ <input type="checkbox"/> <input checked="" type="checkbox"/> SUSPECTED RELEASE?	If you suspect a release to air, evaluate all populations and sensitive environments within 1/4 mile (including those onsite) as primary targets.
Summarize the rationale for Suspected Release (attach an additional page if necessary): No ODORS REPORTED. No DUST OBSERVED DURING SITE VISIT.	

AIR PATHWAY SCORESHEET

Pathway Characteristics

Answer the questions at the top of the page. Refer to the Air Pathway Criteria List (page 21) to hypothesize whether you suspect that a hazardous substance release to the air could be detected. Due to dispersion, releases to air are not as persistent as releases to water migration pathways and are much more difficult to detect. Develop your hypothesis concerning the release of hazardous substances to air based on "real time" considerations. Record the distance (in feet) from any source to the nearest regularly occupied building.

Likelihood of Release (LR)

1. Suspected Release: Hypothesize based on professional judgment guided by the Air Pathway Criteria List (page 21). If you suspect a release to air, use only Column A for this pathway and do not evaluate factor 2.

2. No Suspected Release: If you do not suspect a release, enter 500 and use only Column B for this pathway.

Targets (T)

3. Primary Target Population: Evaluate populations subject to exposure from release of a hazardous substance from the site. If you suspect a release, the resident, student, and worker populations on and within ¼ mile the site are considered primary target population. If only the number of residences is known, use the average county residents per household (rounded up to the next integer) to determine the population. In the space provided, enter this population. Multiply the population by 10 to determine the Primary Target Population score. Note that if you do not suspect a release, there can be no primary target population.

4. Secondary Target Population: Evaluate populations in distance categories not suspected to be subject to exposure from release, of a hazardous substance from the site. If you suspect a release, residents, students, and workers in the ¼ - to 4-mile distance categories are secondary target population. If you do not suspect a release, all residents, students, and workers onsite and within 4 miles are considered secondary target population.

Use PA Table 8 (page 23). Enter the population in each secondary target population distance category, circle the assigned value, and record it on the far-right side of the table. Sum the far-right column and enter the total as the Secondary Target Population factor score.

5. Nearest Individual represents the threat posed to the person most likely to be exposed to a hazardous substance release from the site. If you have identified a primary target population, enter 50. Otherwise, assign the score from PA Table 8 (page 23) for the closest distance category in which you have identified a secondary target population.

6. Primary Sensitive Environments: If a release is suspected, all sensitive environments on or within ¼ mile of the site are considered primary targets. List them and assign values for sensitive environment type (from PA Table 5, page 16) and/or wetland acreage (from PA Table 9, page 23). Sum the values and enter the total as the factor score.

7. Secondary Sensitive Environments: If a release is suspected, sensitive environments in the ¼ - to ½ - mile distance category are secondary targets; greater distances need not be evaluated because distance weighting greatly diminishes the impact on site score. If you do not suspect a release, all sensitive environments on and within ½ mile of the site are considered secondary targets. List each secondary sensitive environment on PA Table 10 (page 23) and assign a value to each using PA Tables 6 and 9. Multiply each value by the indicated distance weight and record the product in the far right column. Sum the products and enter the total as the factor score.

8. Resources: A score of 5 can generally be assigned as a default measure. Assign zero only if there is no land resource use within ½ mile.

Sum the target scores in Column A (Suspected Release) or Column B (No Suspected Release).

Waste Characteristics (WC)

9. Waste Characteristics: Score is assigned from page 4. However, if you have identified any primary target for the air pathway, assign either the score calculated on page 4 or a score of 32, whichever is greater.

Air Pathway Score: Multiply the scores for LR, T, and WC. Divide the product by 82,500. Round the result to the nearest integer. If the result is greater than 100, assign 100.

AIR PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Air Pathway Criteria List, page 21)?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Distance to the nearest individual:	_____ ft

LIKELIHOOD OF RELEASE	A	B	References
	Suspected Release (RAQ)	No Suspected Release (R02)	
1. SUSPECTED RELEASE: If you suspect a release to air (see page 21), assign a score of 550. Use only column A for this pathway.			
2. NO SUSPECTED RELEASE: If you do not suspect a release to air, assign a score of 500. Use only column B for this pathway.		500	
LR =		500	

TARGETS

3. PRIMARY TARGET POPULATION: Determine the number of people subject to exposure from a suspected release of hazardous substances to the air. _____ people x 10 =											
4. SECONDARY TARGET POPULATION: Determine the number of people not suspected to be exposed to a release to air, and assign the total population score using PA Table 8.		17									
5. NEAREST INDIVIDUAL: If you have identified any Primary Target Population for the air pathway, assign a score of 50; otherwise, assign the Nearest Individual score from PA Table 8.		20									
6. PRIMARY SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (PA Table 5) and wetland acreage values (PA Table 9) for environments subject to exposure from a suspected release to the air.											
<table border="1"> <thead> <tr> <th>Sensitive Environment Type</th> <th>Value</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Sensitive Environment Type	Value									
Sensitive Environment Type	Value										
7. SECONDARY SENSITIVE ENVIRONMENTS: Use PA Table 10 to determine the score for secondary sensitive environments.		0.7									
8. RESOURCES		5									
T =		42.7									

WASTE CHARACTERISTICS

9. A. If you have identified any Primary Target for the air pathway, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	(100 = 32)	
B. If you have NOT identified any Primary Target for the air pathway, assign the waste characteristics score calculated on page 4.	(100, 32, = 18)	18
WC =		18

AIR PATHWAY SCORE:

$$\frac{LR \times T \times WC}{82,500}$$

Subject to a maximum of 100
4.7

PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Population	Nearest Individual (choose highest)	Population Within Distance Category												Population Value
			1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	Greater than 1,000,000	
Onsite		20	1	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	1 1 1 3 4 7
>0 to ¼ mile	63	20	1	1	①	4	13	41	130	408	1,303	4,081	13,034	40,811	
>¼ to ½ mile	132	2	0	0	1	①	3	9	28	88	282	882	2,815	8,815	
>½ to 1 mile	572	1	0	0	0	1	①	3	8	26	83	261	834	2,612	
>1 to 2 miles	7664	0	0	0	0	0	1	1	③	8	27	83	266	833	
>2 to 3 miles	21776	0	0	0	0	0	1	1	1	④	12	38	120	376	
>3 to 4 miles	39482	0	0	0	0	0	0	1	1	2	⑦	23	73	229	
Nearest Individual =		20													Score = 17

PA TABLE 8: AIR PATHWAY VALUES FOR WETLAND AREA	
Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS			
<i>Distance</i>	<i>Distance Weight</i>	<i>Sensitive Environment Type and Value (from PA Table 5 or 9)</i>	<i>Product</i>
Onsite	0.10	x	
		x	
0-1/4 mi	0.025	x 25 WETLAND CREEK	0.625
		x	
		x	
1/4-1/2 mi	0.0054	x 25 WETLAND CREEK	0.135
		x	
		x	
		x	
Total Environments Score =			0.76

SITE SCORE CALCULATION

In the column labeled S, record the Ground Water Pathway score, the Surface Water Pathway score, the Soil Exposure Pathway score, and the Air Pathway score. Square each pathway score and record the result in the S² column. Sum the squared pathway scores. Divided the sum by 4, and take the square root of the result to obtain the **Site Score**.

SUMMARY

Answer the summary questions, which ask for a qualitative evaluation of the relative risk of targets being exposed to a hazardous substance from the site. You may find your responses to these questions a good cross-check against the way you scored the individual pathways. For example, if scored the ground water pathway on the basis of no suspected release and secondary targets only, yet your response to question #1 is "yes," this presents apparently conflicting conclusions that you need to reconsider and resolve. Your answers to the questions on page 24 should be consistent with your evaluations elsewhere in the PA scoresheets package.

SITE SCORE CALCULATION

	S	S ²
GROUND WATER PATHWAY SCORE (S _{gw}):	2.52	6.35
SURFACE WATER PATHWAY SCORE (S _{sw}):	61.2	3745.4
SOIL EXPOSURE PATHWAY SCORE (S _s):	1.6	2.56
AIR PATHWAY SCORE (S _a):	4.7	22.09
SITE SCORE:	$\sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2}{4}}$	
	30.7	

SUMMARY

	YES	NO
1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A. If yes, identify the well(s).		
B. If yes, how many people are served by the threatened well(s)?		
2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?		
A. Drinking water intake	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. Fishery	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C. Sensitive environment (wetland, critical habitat, others)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. If yes, identify the target(s). <u>WETLAND</u>		
3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, identify the property(ies) and estimate the associated population(s).		
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain:	<input type="checkbox"/>	<input type="checkbox"/>